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TO THE STUDY OF BIRDS IN THE FIELD

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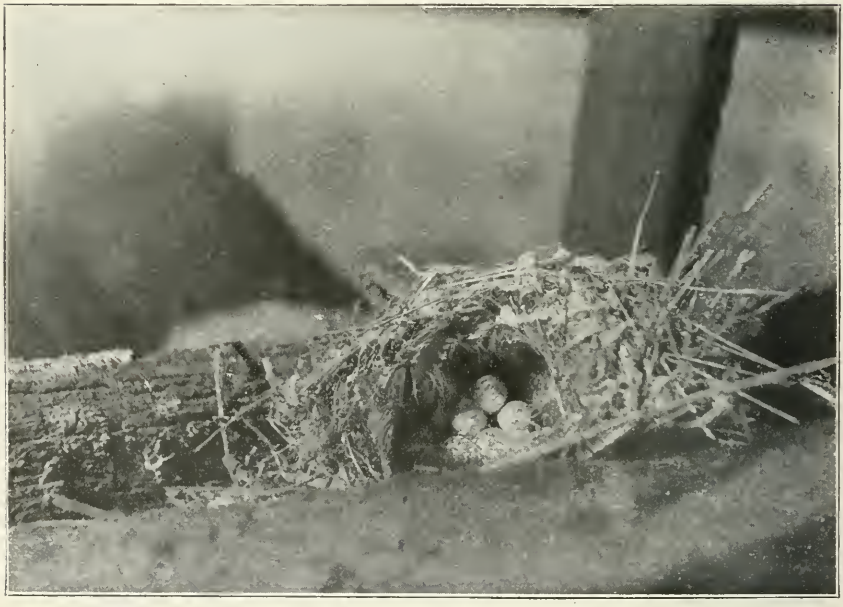
Nest of Bewick's Wren *(Thryothorus bewickii)* in a coffee pot.



Nest of Bewick's Wren *(Thryothorus bewickii)* in a wood pile.

Photos. by Rev. W. F. Henninger.

THE

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NOTES ON THE LEUCOSTICTES—GRAY-CROWNED AND HELPBURN'S.

P. M. SILLOWAY.

(FROM THE WRITER'S MANUSCRIPT OF A FORTH-COMING LIST OF BIRDS OF FERGUS COUNTY, MONT.)

The Gray-crowned Leucosticte, (*Leucosticte tephrocotis*,) is a regular winter resident at Lewistown, where it is known as the "brown snowbird." It generally appears about the first of November, though in pleasant weather it may not be observed before the 8th or 10th of that month. It is gregarious, moving about daily in flocks of varying size, usually scattering about town in smaller troops until severe weather, when most of the troops unite into one large flock, often containing from two to three hundred individuals.

The Leucostictes are our English Sparrows in social manners. They feed fearlessly at the door-steps or in the yards, though they are likely to whir away when the door is opened or when anyone appears unexpectedly at a window near by. On a warm winter morning I have seen from forty to fifty of these birds sitting on a wood-pile in the door yard, sunning themselves and gleaning from refuse on the ground.

Late in the afternoon the individuals of a flock scatter out to nooks they are accustomed to use for the night. A

particular male, and sometimes a female, have regular sleeping-nooks in a porch of the writer's home, and long before nightfall the birds seek their quarters. I have seen a leucosticte enter a tubular eaves-trough and there spend the night. Frequently they flutter under projecting eaves, and cling to some protruding support for the night.

In 1899, I first noted the leucostictes on October 30, when a troop of fifteen was seen gleaning on a vacant lot on Main street at Lewiston. When disturbed, they arose with sharp, metallic, scolding notes, keeping together and flying away in irregular, undulating, capricious flight. By November 16, the number of the flock had increased to about sixty. They fed near the school building, and were quite fearless and friendly, an individual frequently alighting within six feet of me.

The leucostictes are extremely restless, flitting in irregular, jerky movements. They have a trilling chirp which they utter a-wing and on the ground. They alight about the buildings much like English Sparrows, preferring projecting parts, gutters, window sills, and gables. They frequently alight in a window, even if some one is standing at the window inside.

These birds feed on the seeds of the dwarf sage, or they glean from the snow around the bases of such plants. They often frequent the hillsides at the margins of snowy areas. In the spring, when a thaw is taking place, a whole flock will congregate on a spot eight or ten feet across, all pecking industriously at the bare ground. They also frequent the margins of dry ditches, or a walk or fence on sloping ground, where exposed spots are found. Some of a flock are in motion at any time, flitting nervously to another portion of the feeding-place. Often the entire flock will take wing with a dull whirr of wings, many of the birds uttering a quick alarm note like the syllable "quir," or "quie," or "quie quie." Rising in scattering order, with capricious, undulating movement, they may circle down immediately to the same forage-spot.

The rapid flitting of the wings of the leucostictes is noticeable, though sometimes one of the birds will soar through the air with outspread wings, fluttering the wings only enough to give movement to the body. The flitting of the wings appears to be caused by their tips being elevated above the general level of the bird's back.

Very early in the spring the leucostictes give evidence of the approach of the nuptial season. After the middle of January a male will frequently chase another or a female, like Meadowlarks in amorous sport. Occasionally, at this season, a male will alight for a few moments on some convenient perch, and utter a pretty little trill, like "tree-ree-ree-ree ree," enunciating the syllables with great rapidity. As the season advances and the warm sunshine of late February indicates the further progress of the vernal period, the males become more prolific in their musical efforts. Sitting on the ridge of house or barn, generally at the end of the ridge, alone or in small troops, they utter their wheezy chants, sometimes with no more force than that used by the Grasshopper Sparrow, though often with greater force and more varied expression.

The males sing also when sitting on the ground, appearing to be picking up morsels of food and singing as a frequent variation. In such instances the song has a ventriloquil effect, seeming to arise from a point much farther away. A male singing on the ground will sometimes sidle toward a female, and if she coyly takes wing, a reckless amorous pursuit will follow.

In producing their musical numbers, the males care little for surroundings if an appreciative female listener is near. Late in February last year I observed a male sitting on a telephone pole in front of the post office at mail time, and disregarding the activity below, he uttered his low, hurried trills.

In early March the wing-bars of the leucostictes become more prominent, the purple of the sides begins to show more noticeably, and the colors generally assume their

nuptial hues. By the middle of April the last of the leucosticte has disappeared.

Hepburn's Leucosticte can easily be distinguished from the Gray-crowned by the greater amount of gray upon the head of the former, the color frequently marking the entire head above the lower part of the ears. In the flocks that visit us, the proportion is about one Hepburn's to six or eight Gray-crowned. In habits the one is a counter-part of the other.

THE BEST PLACE OF ALL.

An Amateur's Experience.

MISS REBECCA M. LEETE.

Some three or four years ago my friend and I were returning on a late September day from a drive in the country. It was already growing dusk as we crossed a little valley before entering town, but from the dry reeds by the brook a belated bird—black and white with flashes of crimson—rose and swept over us, far out into the sky.

We followed him with longing eyes until he was lost in the distance and then vowed that when spring came again we would begin to study birds, never dreaming, in our ignorance, that we might have begun at once.

I recalled the fact that I possessed a fine copy of the Pennsylvania Bird Book and a battered pair of field glasses cherished until that moment as a relic of the Civil War only. We were never satisfied as to the identity of our bird and it seems to me now as if it were the spirit of all the birds and, soaring out into the twilight, it had left behind an undying joy in the study of nature and her children.

The following April found us a-field, and we learned many of our common birds which aforetime had been strangers.

May brought such an invasion of warblers into our garden as has not since been equalled or even approached, so our beginning was unusually favorable, although we took it as a matter of course and believed it was merely an affair of the blind receiving sight.

By the next year we were finding out little by little that it was not necessary to go abroad in the land to see most birds, for only two blocks from us lay the entrance to the Best Place of All. That the best things in life are usually close at hand, experience has gently taught me. I do not dispute that others discovered this truth long ago, but I claim the right to reiterate it since it is mine by right of discovery.

If I were to take you to our favorite haunt we would saunter over to the next street and pause—but merely for a moment to undo the gate—before a small pasture in which four or five cows, more or less amicable, may be found browsing in summer. It is both an ordinary scene and a clumsy gate, but just beyond lies the pathway to much joy and content.

Once upon a time a man of wealth thought to have a country home here, so he cut a road down the bank and through the valley beyond, terracing a slope here and there and setting out grape vines. Why he abandoned his plan I do not know—accepting the blessing without inquiry. A grassy carpet covers the terraced banks from which the vines have mostly disappeared, and over the pathway once destined for a drive vines and shrubs arch lovingly.

The man who made this foot-path way has gone to his long rest and it matters little to the loiterers in the valley who pays the taxes, enough that it is ours. Mr. Bradford Torrey, it is true, pays cheerfully and even joyfully the taxes on his bit of woodland, and Mr. Burroughs, I believe, owns land in the vicinity of Slabsides, but I question if they own their land any more truly than we, ours.

But we have not yet gone down the hill. That tree at the left is a wild crab-apple. We used to drive three miles

every spring to see one in blossom—and found it at our door. That little bush that arches over the path held a Red-eyed Vireo's nest that we might have touched by putting out our hand when we passed, but the secret was faithfully kept until autumn.

The grape-vines at our right which run riot over the bushes are forever associated in my mind with a concert of Ruby-crowned Kinglets one April morning. It was not only the first time I had seen the kinglet at close range, but also the first view of that wonderful dazzling ruby-cap, and when the discovery was made that the loud ringing warble came from his tiny throat, it was, indeed, a red-letter day. And so I might attach some reminiscence to every tree and shrub along the way.

Down the hill and across the brook lies a large clump of witch hazel; in the marsh beyond it amid willows and sweet fern and spice bushes, the Maryland Yellow-throat loves to sing his *witch-ity, witch-ity, witch-ity, witch*, disclosing his own name, I suspect, for who ever found him where he pretended to be? The sly rascal can stay nearer one and yet remain hidden than any other bird I know, and for his nest —but I still have hopes.

Around the bend you enter the woodland and the brook glides into a trout pond. The walk is dim and woodsy now, and we name it Thrush Alley, for in migration time the Hermit and the Veery flit before us in their silent, dignified way, and the Wood Thrush remains to build.

In the pond the Kingfisher pays no attention to the signs regarding the wayward fisherman but springs his rattle as if he were a patrol. Sandpipers love to teeter on the mossy logs, Bitterns pay it frequent visits; and once in August two magnificent Blue Herons remained in full view with perfect placidity until some noisy people, who came along the dam, offended them—regardless of the law of the forest—by much pointing and babbling. On either hand the partridge berry covers the ground with glossy green and embroiders it with beautiful, sweet scented, starry flowers in June. Down by

the pond grow some pale green orchids which happily the High School students have not yet found. Here in these wild grape vines and hemlocks five disconsolate Robins spend the winter. Down on the point we watched a Redstart build her nest in a young maple, but alas! 'Satan came also,' for one day beside the two tiny white eggs—one broken—lay a larger one.

A Cardinal—rare at any time—regarded us doubtfully one winter day from that tree yonder, while at this bend in the path we have seen more warblers than in any other one place. The bird-books told us of the shyness of the Black-burning Warbler, how he invariably chose to disport himself in the tops of high trees where one must view him with strained eyes and aching neck if at all. In company with Black-throated Green, Black-throated Blue, Parulas, Myrtle, Chestnut-sided, and Bay-breasted Warblers, they flitted about close to the ground not more than ten feet away. Some girls came laughing and chattering up the path and in a few moments the brilliant company had quite vanished.

Instead of descending this steep bank and crossing the spring that runs into the pond and harbors the earliest water-cress, let us go around on the right. The bank in May is purple with violets which grow among clumps of Christmas fern. At the left we watched a pair of Chickadees excavate a nest in a small stump about eight feet from the pathway, where they reared a family of seven and, although they were in plain sight and made no secret of their domestic affairs so far as we could see, I never knew of any but the initiated who were aware of it, and believe no harm ever came to them while there.

In this same place a Fox Sparrow, in company with a Winter Wren, loved to scratch in the dry leaves, and we often watched him before he went on his northward journey. One April morning before he left he sang an exquisite song, —the very spirit of the woods.

The pond is artificial, but not obtrusively so, since immense willows grow on the dam. And now we take the

path past it up through an avenue of ancient hemlocks to the top of the hill. Here and in the more open slope beyond, thrushes, White-throats, and White-crowns, love to linger during migration, and the Hooded Warbler builds somewhere near. Further on is still another pond,—willow ramparted. Sitting under these trees one July day to escape a shower, we looked down below and saw six Phoebes sitting in a solemn row on a branch with a seventh near engaged in serving lunch. The whole family at once and at dinner! You remember what Thoreau said? "What you seek in vain for half your life, one day you come full upon all the family at dinner." Those words have come to me again and again. I well recall a brief glimpse of a Rose-breasted Grosbeak a mile and a half from here; a peculiar favor to have seen it we then though, but the next spring we could go down in our valley any time during a fort-night and hear a flock of them singing.

Last winter it came time for us to take our weekly German lesson, but the snow fell thickly, swiftly, almost in masses, and while we waited dismayed at the prospect of wading through it, behold! the Herr Prediger beaming in upon us saying he thought he would practice the Golden Rule—surely a noble idea—,and as we stumbled along in a strange tongue, some one idly glanced out of the window and lo! the snow had ceased and six Evening Grosbeaks were feasting upon a young maple directly in front of the house upon the street. They remained an hour perhaps, our first and only view of them, and not one of the ten or twelve people who passed saw them.

Last spring an Oven-bird remained near the house for several days quite fearlessly, while White-throats have foraged at our very door. In fact, in our lot alone—less than half an acre—sixty different species have been identified, eighty-five species have been seen in the ravine, while undoubtedly twenty-five species nest there.

Most of our acquaintances view us with amused tolerance at the best, and no doubt regard our pastime as a mild

species of insanity. "How much better" (I suspect them of thinking) "are five o'clock teas," but now and then we find a kindred spirit generally a *boy*.

A boy it was who, after reading Mrs. Eckstorm's admirable Woodpecker-book this winter, told me that a Yellow-bellied Sapsucker had a row of holes around their apple tree and he had been seen several times.

I regret to say, I doubted his accuracy of observation. A Sapsucker here in winter when Mr. Chapman and the Pennsylvania bird book said they wintered from Virginia south? A few days later the boy was vindicated, for the Sapsucker, bent on investigating the nuthatches activity, followed him up and perched just above the suet a few feet from the kitchen window, without, however, discovering the source of supplies. I wondered if the sly fellow had not stolen many a lunch the nuthatches had stowed away for future use.

According to the suggestion of the Wilson Bulletin, New Year's day was set aside for a walk, and it was as bright and beautiful a day as could be imagined. Unfortunately we erred as we sometimes do and made ourselves think we could see more birds elsewhere than in our usual haunt. One of our boys, inspired by the offer in the Wilson Bulletin, was to go with us, but was too late and being wrongly instructed, went where we should have gone—to the Best Place of all. We returned without having seen a bird while our boy saw a flock of Goldfinches, a Blue Jay, a Partridge Juncos, and a Nuthatch.

So I believe, for the person who has little time, to know one favorable spot well is better that much going to and fro upon the earth, though that is also good and even necessary for a variety of species.

I know a beautiful valley with precipitous cliffs where the Bald Eagle soars and builds, a woods upon whose edge a little Scandinavian boy has a garden of yellow lady-slippers, *(Cypripedium parviflorum)*, which he transplanted and keeps free from grass, prompted only by his love of the beautiful. The maiden-hair fern and the purple-fringed orchis grow

rankest in still another woods. *Cypripedium acaule* and wintergreen take us southwest and rhododendrons twenty miles southeast. The upland meadows for Bobolinks and Meadowlarks, the cliffs for hawk and eagle, the woods to the south for Oven-bird and Chewink, the lake to the north for duck and Bank Swallow. But for the greatest variety and abundance, all the year round, just around the corner lies the Best Place of all.

THE MOTACILLIDÆ OF GERMANY.

W. F. HENNINGER.

This family, represented in the A. O. U. Check-List by the genera Motacilla, Budytes, and Anthus, is almost entirely palæartic, stragglers only of these genera visiting us in North America. Setting aside the accidental visitors of this family in Germany, I had the good fortune to become acquainted with the two species of Motacilla, the one of Budytes and three of the four of Anthus during my eight years' stay in Europe. It may be of some interest to the readers of the BULLETIN to hear more of these birds than the short notes of our manuals and check-lists are able to give, and so I describe them as I saw them in their favorite haunts.

The White and Yellow Wagtails are both described in our North American Manuals. The third species, the "Mountain Wagtail" (*Motacilla sulphurea*), has the upper parts ash-gray, tinged with olive on head and crissum; general appearance of wings brownish, lores blackish-gray, throat deep black, lower parts lemon-yellow.

One of the first birds that greeted me, when I reached the broad pasture-lands of Holland in 1885, after crossing the Atlantic, was the merry wagtail. As the big steamer

plowed its way slowly through the canal from Ymuiden to Amsterdam, the eye was favored with the characteristic Dutch landscape, windmills, dams, canals, fat pastures, beautiful cows, and of birds the stork, the lapwing, and the wagtails. The long grass harbored the Yellow Wagtail, but along the roadsides, at the brooks, flowing along with the same slow surety with which everything in Holland moves, at occasional ponds, at the windmills, the White Wagtail was in abundance, showing that it well deserves its German name "Bachstelze." It is a bird that is ever alert, ever in motion, graceful in its movements, pleasing to the eye in its Prussian colors, a favorite with everybody. Early in March it returns to Germany, running along on the top of the tile roofs, wagging its tail continually. We greet them cordially as one of the first harbingers of spring. Yet ugly snowstorms often come in this month and ice covers the brooks and sloughs. Safely sheltered sleeps the little Wagtail under the tiles of the roof, or in the knot-holes of a beam. Before daylight it is out to seek food, circling about its favorite places, diving down into the snow in its futile efforts and seeing that it must seek refuge at gutters, barns, and dung heaps. Bye and bye the ice floats down the rivers, the sun shines brighter—spring has come. The insects leave their gloomy places and begin to play in the warm rays of the spring sun. Troops of wagtails visit these insect meetings to catch them, constantly teasing, chasing, quarreling with one another; nodding the head, wagging the tail, singing at all times, ever restless, now robbing a brother of a fat spider with lightning quickness, now spying a slowly flying crow or hawk with a loud alarm call, and in an instant the whole troop surrounds the detested enemy, scolding, tormenting, pecking at him, till he hurries to the woods. Whirr! They return to their meal. Now they follow the ploughing peasant, gathering worms from the furrows, hurrying hither and thither; away again they fly to the pasture near by, where the sheep are cropping the first grass, to pick up the excrements or even to alight on the backs of the animals to

snatch up their insect prey. What a delight to watch the wagtails, especially during the mating time. Ever pugnacious, they are now ready to fight upon the least provocation, garrulous, envious, jealous all the time. Full of malice, the males battle for the possession of a fair lady, some clashing together in the air, some running against one another as the ancient knights in the tournaments, some crowding one another at the edge of the roof in fierce angry combat, till the weaker one has to "give up" and is chased clear out of sight and reach, and then they enter upon their household duties. "Any old place" is good enough for the nest; in a tree, upon the beams of a house or barn, in a stonepile, in a brick wall the carelessly constructed nest is placed always revealing the fact that these birds originally bred in holes. The most beautiful nest I ever saw of this species was placed on the top beam of our enormous "Turner hall" at Niesky, Silesia, 65 feet above the ground. On June 1st, 1890 I climbed up to it. Outwardly a mass of rootlets, grass-blades, straws, moss, and paper it was rather a cozy domicile on the inside, soft to the touch of the hand, composed of and walled with wool, hair, lichens and other similar material. Six eggs were in it, grayish, speckled with lilac and gray, and as I gaze upon them at present, they bring back to my memory that beautiful nest, the anxious parents and the dangerous climb in the dusk of that June day.

Both of the season's broods wander along the streams and ramble about the swampy ditches, playfully devouring thousands of worms, snapping at insects in a short, jerky flight, or gathering them from the earth, running rapidly to and fro, constantly calling to one another, till evening comes and all meet with starlings and swallows, to roost in the willows fringing the swamps and ponds till the chilling frosts of October cover the ground. One morning we awaken to find that all have left us for the south.

Away from the abode of man to the mountains we must wander to find the other member of the true wagtails. Where the ice cold waters of the brook tumble from rock to

rock over the white pebbles in the shadow of the majestic pines that murmur a low accompaniment to the gushing, spraying cataract, or where the clappering of the mill-wheel breaks the solitude at the entrance into the valley we meet the Mountain Wagtail, dancing cheerily from stone to stone, catching water insects, always trying not to soil its bright garment. As it trips along the foaming eddy its gay song reaches our ear. Though not a beautiful song, still it far surpasses that of its relatives. Now it warns its young, that have been reared in a nest similar to our Phoebe's in construction and location, and are following their parents in the first youthful ventures. Only in pairs or small broods do we meet them till they troop together in the fall, and but few brave the winters of the north. The same crafty and jealous spirit as that of the White Wagtail leads it to strife and quarrel, and as the White Wagtail is inseparable from the neighborhood of man, so is the Mountain Wagtail ever associated with the dashing, gleeful, glittering silver wavelets of the mountain streams, the pet of young and old, admired and loved by all who observe it, and yet a true Wagtail in every respect. Never persecuted in a country where laws are not only given, but also enforced, where the small boy is kept under the strict guidance and custody of teachers and parents, where the "egg hog" is a myth, it will always live and thrive to adorn as a jolly, rollicking, roving elf the wild streams of the German mountains. A bird beautiful to behold, useful in its work and ever cherished in my memory as one of nature's favorites, as I met it in the Hartz or the Sudetic mountains.

From the rugged mountains we descend into the broad, fertile plain and instantly the scenery changes. Fields carefully tilled surround us, cottages with little flax-haired children playing about them decorate the landscape, and green pastures stretch out before us, with cows lazily resting or grazing in them. Rural serenity greets us as we walk over the pastures. Numerous Yellow Wagtails attract us by their pretty garb; even though they may nest quite a distance away, they seek such places for their food. Smaller and less

hardy than its cousins it is not till in the latter part of April that it comes to Germany from the hot tropics. Where the ground is low and swampy, where the cattle love to dwell, not an acre of ground can be found that does not harbor at least one or two pairs of Yellow Wagtails. More like the White Wagtail in its ways, it is a poorer songster, equally agile in running and quicker in flight. With vibrating wings it often hovers over a certain place, finally drops down into the drooping grass, runs about in it with an astounding dexterity, never loosing an opportunity to gulp an unfortunate gnat or spider. Gregarious at all times, it is also extremely quarrelsome and a perfect rowdy. It raises but one brood in a season. The nest, like that of all birds that build on the ground, is difficult to find, perfectly characteristic and contains four to six eggs, greatly varying in color. Both eggs and young are carefully watched by the anxious parents. The young quickly learn how to hide in the dense grass and are soon as gay and restless as their parents, till on some frosty September morning, when the first autumn winds moan over the stubble fields and turnip patches, the whole army wings its way swiftly to the sunshine and verdure of Africa.

Of the four species of Pipits, the "Water Pipit" (*Anthus aquaticus*), the one similar to our American Pipit, is rare in Germany, and though nesting in the mountains of Silesia, where I stayed mostly, is the only one I never met with. The Meadow Pipit (*Anthus pratensis*) and the Tree Pipit (*Anthus arboreus*) are very much alike in coloration, both olive brown above spotted with darker markings, beneath light ochraceous with blackish brown spots. But the hind claw of the Tree Pipit is short, crescent shaped, while the Meadow Pipit has a long but little curved claw. The Fallow Pipit (*Anthus campestris*) has a far more brownish-gray appearance and is easily recognized at a distance. In size all three are very much alike, but differ in habits. How distinctly I recollect the day when I saw the Meadow Pipit the first time. The Curate of the Museum at Niesky and I had reach-

ed on our stroll a swampy place called "The Unfathomable Pond." Green, dense moss covered the biggest part of it; snipes, red shanks and lapwings enlivened it and finally I succeeded in crossing the mossy carpet, where the foot became entangled and disappeared slowly in the treacherous, greenish, gurgling waters, where myriads of gnats and foul odors came up as the bad angels of the deep to the intruders of their territory. A few little hillocks where several birches grew in the midst of the swamp gave my weary feet a rest. Lapwings were furious, snipes were "bleating" incessantly, anxious in the extreme, yet well knowing that no mortal foot could ever reach their haunts. All of a sudden, from a little mossy knoll I saw a small bird rising with widespread wings, puffed up feathers and jubilant notes, ascending in flight as well as in song and then after reaching a certain height slowly descending, the song pining away. Long did we observe a number of the Meadow Pipits enjoying their sweet notes in that dreadful swamp. I jotted the song down in my notebook but "dsĭck, dsĭck, dsĭck, dsĭck, wĭtga, wĭtga, wēēa, wĭta, wĭta, wĭta, wĭta, yĭck, yĭck, yĭck, yĭck, yĭck, wēēa, wĭta, wĭta, wĭtga, tirrrrrrr," is not very expressive of what we heard. Many other pipits we met in the adjacent fields, after we finally worked our way out of the dismal swamp, but only heard the call notes "ĭst, wĭst." At such places the nest is found, built by the female only, the latter selecting a knoll in the swamp, in the heath, or a potato patch, cheered by the song of its mate. The first brood is raised in April, the second in June and sometimes a third one later on. The nest is a loose structure; the eggs vary less than those of the Tree Pipit, of which it may be said that they may have any imaginable combination of color and markings. After the eggs are incubated for about two weeks, the young are hatched and tenderly cared for by the parents. Then they roam about the country, feeding on water insects, gnats, grasshoppers, and spiders, being a frequent companion of the Yellow Wagtail in seeking food and in quarreling. On October 3, 1889, on newly ploughed

fields changed into one great mire by a recent cloudburst, I saw swarm after swarm alighting, running swiftly over the mud and in a few minutes it was impossible to tell where they were, till a shot was fired, when thousands rose into the air. Generally during wet and cloudy weather they hide in the heath, in the vicinity of ponds and, frightened, circle around you in short, graceful curves, till they suddenly drop down to their old hiding place. Rarely do they alight on trees, their long hind claw hindering their standing securely.

Contrary to this the Tree Pipit is the bird of the forests. Scarcely to be distinguished from the Meadow Pipit in general appearance, he clings to the trees. As the former he migrates in great numbers and during the first few days after his arrival in April we only hear his call notes "yĭck, yĭck." But soon we can hear them everywhere in the woods long before we stand under the murmuring pines. From a tall, majestic tree in the midst of a clearing, he rises straight up into the air, now descending with half opened wings to a smaller tree, again to rise and float towards heaven, now getting his reward from his joyful spouse. Again resuming his mating song, he runs across a rival. The battle is inevitable. With ruffled plumage and angry shrieks they scuffle on a long slender bough, till the "new-comer" is beaten and our champion once more occupies his favorite pine. His song is superior to that of the Meadow Pipit; more powerful, more rounded and melodious it greets us ever in spring time from the woods. He is always hopping and singing about, has no time for nest building and but little for feeding—a useful songster and a jovial messenger of the forest. His nest is placed anywhere and similar to that of the Meadow Pipit. He is equally anxious about his young and in fall often unites with other Pipits, and when nature begins to die off, with the last rustling leaves of the golden tinted fall he leaves us too.

Humbler in dress than both of his relatives, the Fallow Pipit is the bird of the potato fields, sterile wastes, stony hillsides and barren fallows. The Fallow Pipit is a very shy, retiring and restless bird, jerking his tail up and down, but

slower than the Wagtails. Where they have chosen their home, they select a certain stone, bush or post, where the male has his observation point and when danger approaches either flies rapidly and easily away, or drops like a rocket into the grass. Curiously enough they really have no true song, but only a few monotonous notes, yet the Fallow Pipit is an attractive bird. Especially in the region in which he lives he gives a charm to many a desolate waste or rough rocky hill, where no other creatures seem to thrive. Of all the Pipits he is the best nest builder, and while his nest is bulky it is yet the most difficult to find as each pair has a rather large territory. I never was lucky enough to find the nest, but have heard and read that it is well made and finely lined, containing five eggs, which are white, densely covered with reddish minute spots, varying considerable in size but little in color. He is one of the first birds to leave Germany; in August he starts for the south, traveling by day and by night in small companies, quietly, scarcely noticed by any one, just as his whole life is little known to any one but the forester or ornithologist, who seeks him in his barren home.

THE YELLOW-THROATED VIREO.

(*Vireo flavifrons.*)

BY J. WARREN JACOBS, WAYNESBURG, PA.

One of the most interesting little birds with which I have become acquainted is the Yellow-throated Vireo. Much of my ethusiasm is due, perhaps, to the fact that they so successfully spirited away their little moss-like hanging-basket, that my efforts to reveal it were futile, for a number of years, until after the young had flown. Repeated search, however, was rewarded by the finding of a nestful of fledglings, which blinked at me from the brim of the nest, and showed every

indication of scrambling over if I dared approach nearer than the base of the branch from which the heavy laden basket was swinging.

My knowledge, thus far, seemed to show that these birds choose for a nesting-site, trees along the border of a wood on high ground; and accordingly, when their notes were heard issuing from the forest, I examined the outspreading branches of the trees nearest the open, but usually without success. Failure to find occupied nests, and the presence of the birds in moderate numbers during the breeding season, assured me that I erred in the belief that they always nested on the border of a wood; so I determined to make a more thorough investigotion.

It was on the 9th of May, 1897, that, while searching for a nest of the Louisiana Water-Thrush in a wooded ravine, a little Yellow-throated Vireo darted past me and alighted on the trunk of a tree only a few feet away. Thinking food, in the form of mosquitos, ants or like insects, was its errand, I watched its movement; but almost before I could realize it, the little creature had snatched up a flake of lichen and was away like the flash which marked its arrival. Returning from the same direction it flew to some ferns and nettles. I moved down the ravine and stationed myself where I could see out of the deep recess into the little valley through which a brook gurgled. Soon my little friend came flashing down the ravine, and passing overhead went direct, with an upward bending of flight, to the upper part of a large white oak on the side of the little valley and directly opposite the ravine from which she had just flown. My glass soon discovered the nest, far up among the branches, and both old birds working upon it. The nest seemed to be about completed, as they were putting on the finishing touches—lichen and bits of cocoon-silk on the outside, and fine shreds of bark on the inside.

On the 18th, the growing leaves had completely hidden the nest, and the only way it could be located was to ascend the tree and search for it. It was finally discovered sus-

pended from a forked twig, 55 feet above the ground, with the old bird sitting upon it. She left only when I approached within a few feet of her.

The nest was composed of fine grass, shreds of weed fiber, vegetable and silken substances, and wooly materials; and was lined with fine shreds of bark. The outside was made very beautiful by adornment with little white cocoons, flakes of lichen and some pieces of white pulpy wood.

The four fresh eggs retain, to this day, the delicate pinkish tint which they possessed before being blown, and are the most richly marked eggs of the Vireo I have ever seen. The markings, which are of lavender, chestnut, and vinaceous-cinnamon, are bold and quite heavily seated, chiefly on the larger end of the egg, where a broken wreath is discernible. In shape they range from ovate to elliptical ovate and measure: .82x.57, .78x.54, .76x.54 and .75x.56 inch.

Four nests which I carefully measured, show but slight variation in size, the average being as follows: outside diameter, 3 inches; inside diameter, 2 inches; outside depth, 2.5 inches; inside depth, 1.6 inches. Their height from the ground ranged from twelve to fifty-five feet, the average being thirty-two feet. Two of the nests were in oak trees, one in a maple and one in a hickory tree; the situation being at random throughout forest or high ground.

A nest found on May 30, 1897, had a long black hair interwoven with the fine grass lining. Besides the four eggs of the rightful owner, there were two of the Cowbird's in this nest.

A very peculiar find was a nest secured on May 26, 1898. Beneath and almost hidden by the lining was an egg of the Cowbird. I preserved this nest with the parasite egg remaining where the vireos decided it should rest. While I was securing this nest the old bird sat quietly until I detached the limb and pulled it in where the nest could be reached.

Among my records on composition of nest, I find "oak catkins" and tops of "tumble grass" mentioned as entering in the construction.

I have had the opportunity to make a careful study of a series of six normal sets of this species, numbering twenty-two eggs. Three distinct types of coloration are noticeable in comparing the various sets; the ground running from a pure white to a creamy or pinkish tint, marked more or less with lavender, ecru drab, vinaceous—or vinaceous cinnamon, —chestnut, and black; on some the lighter and on others the darker shades predominating. The markings on one set are almost wholly black; on another, vinaceous; and another has a preponderance of lavender. The contour is either ovate or elliptical ovate, and the average measurements of the twenty-two eggs is .81x.58 inch; the largest being .87x.62 inch and the smallest .75x.54 inch.

NOTES ON THE WINTER BIRDS OF WAYNE COUNTY, MICHIGAN.

BRADSHAW H. SWALES.

Since 1890 I have been interested in recording the various species of birds that either remain throughout the winter or appear casually as stragglers. To me this winter bird study has been both interesting and profitable. A tramp through the fields or the woodlands during the winter months possesses a zest in many respects that the balance of the year does not afford, as the bracing air and lack of insect pests more than offsets the cold and the wet. The following list made during the months of December, January, and February is, of necessity, incomplete as I have had neither the time nor opportunity to observe the winter ducks and have had but a limited time in the field. However, the number of species observed is no mean list for the so termed birdless winter, and I will take pleasure in adding to the same in the coming winter if possible.

1. **Merula migratoria.** Robin.—Rare. Occasionally several are met with during the winter in the city, but the majority of seasons pass without the bird wintering.

2. **Sialia sialis.** Bluebird.—Not a winter bird in any respect. The latest noted was a single male, seen Dec. 8, 1889. Occasionally noted in late February. The forerunner in the migrations. First seen in 1902, February 27.

3. **Certhia familiaris fusca.** Brown Creeper.—A regular winter resident. A pair or so can generally be seen throughout the winter. I heard certhia sing for the first time last February.

4. **Sitta carolinensis.** White-breasted Nuthatch.—Abundant.

5. **Sitta canadensis.** Red-breasted Nuthatch.—Not common, but occasionally noted.

6. **Regulus satrapa.** Golden-crowned Kinglet.—Fairly common some winters; in others entirely absent. Have never seen his ruby crowned cousin in winter.

7. **Parus atricapillus.** Chickadee.—Abundant.

8. **Parus bicolor.** Tufted Titmouse.—Probably can be observed every winter if searched for. I hear the cheery whistle ring through the cold, still woods nearly every winter.

9. **Ampelis cedrorum.** Cedar Waxwing.—Rare. Several flocks seen in January and February, 1896, and two in January, 1902.

10. **Lanius borealis.** Northern Shrike.—Common for the species.

11. **Lanius ludovicianus migrans.** Migrant Shrike.—Have seen but two; both in late February.

12. **Cardinalis cardinalis.** Cardinal.—A new straggler. I have seen but four. February 22, 1902, I noted a pair at Belle Isle on the outskirts of the woods. All the birds of this species I have ever seen here except in May have been in winter.

13. **Junco hyemalis.** Slate-colored Junco.—Fairly abundant.

14. **Spizella monticola.** Tree Sparrow.—Our common winter bird. A cheery companion on bleak days.

15. **Passerina nivalis.** Snowflake.—Very abundant during some winters; apparently absent in others. Earliest record I have is October 31.

16. **Spinus pinus.** Pine Siskin.—J. Claire Wood saw a flock in December, 1889.

17. **Spinus tristis.** Goldfinch.—Abundant.

18. **Loxia curvirostra minor.** Am. Crossbill.—Rare. Two were seen in January, 1892, by D. Anderson.

19. **Acanthis linaria.** Redpoll.—J. Claire Wood saw a flock February, 1897.

20. **Quiscalus quiscula æneus.** Bronzed Grackle.—One flock in February, 1891; an early spring arrival. Latest seen was one in December, 1894.

21. **Scolecophagus carolinus.** Rusty Blackbird.—J. Claire Wood shot one bird January 25, 1891. Occasionally noted in February.

22. **Sturnella magna.** Meadowlark.—Of late years a few remain throughout the winter in certain favored localities.

23. **Agelaius phœniceus.** Red-winged blackbird.—Several flocks in late February, 1891, early arrivals.

24. **Molothrus ater.** Cowbird.—Several hung around my yard in January, 1890, feeding with the English Sparrows. Occasionally noted in late February.

25. **Corvus americanus.** Crow.—A number are resident; roosting in large flocks.

26. **Cyanocitta cristata.** Blue Jay.—Abundant.

27. **Octocoris alpestris practicola.** Prairie Horned Lark.—Fairly abundant every winter.

28. **Colaptes auratus luteus.** Northern Flicker.—A few are now seen every winter. During the past season of '01-'02, I observed the bird every month.

29. **Melanerpes erythrocephalus.** Red-headed Woodpecker.—Since 1896 this bird has wintered in considerable numbers at Belle Isle, our Island Park, situated in the Detroit river. Here their familiar call and bright plumage seem somewhat out of place during the deep snow and bare naked trees. Rare on the mainland.

30. **Dryobates pubescens medianus.** Downy Woodpecker.—Abundant.

31. **Dryobates villosus.** Hairy Woodpecker.—Fairly abundant.

32. **Nyctea nyctea.** Snowy Owl.—A few are taken every winter. During the season of '01-'02, in Wayne and the surrounding counties, this beautiful winter visitor was unusually abundant and many found their way to local taxidermists. This seems to have been the case in all the northern states. See Ruthven Deane in the Auk, 1902, July.

33. **Bubo virginianus.** Great Horned Owl.—Rather rare and found only in the largest pieces of timber. Resident.

34. **Megascops asio.** Screech Owl.—A fairly abundant bird.

35. **Nyctala acadica.** Saw-whet Owl.—Rare, possibly more common than supposed, as it is not often seen. One shot December 26, 1901, and two in January, 1902, in Grosse Point, by a farmer. One shot October 17, 1902, in the heart of Detroit.

36. **Syrnium nebulosum.** Barred Owl.—I have found this owl rare during the winter months.

37. **Asio accipitrinus.** Short-eared Owl.—More abundant during the past winter than I have ever noted the species to be. A flock of forty were seen in Grosse Point in January, 1902, by a local farmer. Occasionally flushed from the marsh grass bordering the river.

38. **Asio wilsonianus.** Long-eared Owl.—Resident. Seldom seen because of its nocturnal habits.

39. **Pandion haliaetus carolinensis.** Am. Osprey.—Rather rare migrant. Occasionally seen on the river in February.

40. **Falco sparverius.** Sparrow Hawk.—Generally several are observed every winter.

41. **Haliæetus leucocephalus.** Bald Eagle.—Rather rare. One or two are generally seen every winter after the ducks on the river.

42. **Aquila chrysaetos.** Golden Eagle.—Very rare. James B. Purdy records one shot near Plymouth, in the Auk, January, 1902.

43. **Archibuteo lagopus sancti-johannis.** Am. Rough Legged Hawk.—A fairly common migrant for the species. Old Feather Boots is perhaps more often seen at the St. Clair Flats than in Wayne Co.

44. **Buteo lineatus.** Red-shouldered Hawk.—A few are resident here.

45. **Buteo borealis.** Red-tailed Hawk.—Resident; occasionally seen.

46. **Accipiter cooperi.** Cooper Hawk.—Occasionally seen in February.

47. **Accipiter velox.** Sharp-shinned Hawk.—Rare in winter; have seen but three or four.

48. **Circus hudsonius.** Marsh Hawk.—Occasionally seen; rather rare

49. **Zenaidura macroura.** Mourning Dove.—A few winter here. During the past winter a flock of seven remained at a barn on the outskirts of the city feeding in the barn yards and roosting in the hay stacks.

50. **Bonasa umbellus.** Ruffed Grouse.—Resident; fairly common.

51. **Colinus virginianus.** Bob-white.—Resident; common.

52. **Harelda hyemalis.** Old Squaw.—Said to be abundant on the river and St. Clair Flats during the winter.

53. **Clangula clangula americana.** Amer. Golden-eye.—Our most abundant winter duck.

54. **Aythya affinis.** Lesser Scaup Duck.—Abundant.

55. **Aythya marila.** Am. Scaup Duck.—Not as common as the smaller Bluebill.

56. **Aythya vallisneria.** Canvas-back.—Fairly abundant, especially at the St. Clair Flats.

57. **Aythya americana.** Red-head.—Abundant.

58. **Merganser serrator.** Red-breasted Merganser.—Not common.

59. **Merganser americanus.** Am. Merganser.—Fairly abundant.

60. **Larus delawarensis.** Ring-billed Gull.—Abundant on the river all winter.

61. **Uria lomvia.** Brünnich Murre.—I include this bird on the records of several taken December 26, 1896, near Gibralter, as recorded in The Bull. Mich. Ornith. Club, January, 1897.

In conclusion, I would greatly desire any additions, correc-

tions or notes from local observers, to this list, and especially on the ducks. My thanks are due to Mr. J. Claire Wood and Alec Blaine, Jr., of Detroit, for many valuable records.

A FEW ADDITIONAL NOTES ON THE FLICKER.

FRANK L. BURNS, BERWYN, PA.

It has been suggested that I bring together the additional notes received subsequent to the publication of our coöperative investigation of the Flicker.

In connection with two obscure vernacular names, Mr. Ernest Ingersoll pertinently remarks: If *Woodquoi* really exists, it is probably allied to the English *Woodquest* (or *'queest*), for the Dove (*Columba palumba*), the root meaning of which appears to be the word "complainer." "*Woodwall*," according to Skeat, is ancient *Wooawale*, and derived from old Dutch, meaning "a yellow bird."

Under the head of migration, some valuable notes relative to the retrogade movements of the bird, are contributed by Dr. Walter W. Mavis. In south New Jersey, in the region of the Upper Delaware Bay, which runs due south, some time in October of every year the migrating Flickers are found flying north just previous to and during a northwest storm. At this time the wind is generall high and the birds fly against it. This peculiarity of flight affects a large territory extending inland from the east shore of the bay some fifteen or twenty miles. While the birds prefer to breast a wind, it is also probable that they are reluctant to cross the lower part of the bay during such a storm which would tend to drive them seaward, rather preferring to return northward to the more narrow river where they could cross in comparative safety.

Apropos to its enemies, I have to add another, my favor-

ite: the Broad-winged Hawk—with the somewhat modifying term—sometimes. A nest of lusty young hawks examined in July, '01, contained the primaries and rectrices of one or two young Flickers, probably just out of the nest. Two dried pellets which had been disgorged contained the hair, skin, and jaw of a woodmouse, scapular and interscapular feathers of a young Flicker, and feathers of a young Wood Thrush. From this evidence I conclude that young birds, at least, are occasionally killed by this almost wholly beneficial *Buteo*. To the above Mr. Benj. T. Gault adds the Blacksnake—one having been killed and cut open by a farmer's lad at a place he was stopping at in Reynolds county, Missouri, contained the body of one of these woodpeckers.

The question as to whether the adults do or do not remove the excrement of the young, has not been settled. It is probable that they do however, for a time, depending more or less upon the individual. I have found some nests containing young well feathered, which were far from cleanly; others were as clean as could be. A nest nine feet up in a butternut stub containing four young about two weeks old, was examined last June 19th, at 9 p.m., with the following results: The parent was not covering the young. Temperature of interior noticeably warmer; it seemed to me to be at blood heat. The young in two layers but almost equally strong and advanced, if I may except one of the topmost which was able to utter a squeal and jump out and flutter away to the ground; the others had uttered the usual feeding clatter drowsily, but became silent almost immediately and allowed me to take them out one by one by wing or beak. The birds were perfectly clean, while the bottom of the nest was somewhat foul. The aggregate contents of the stomachs of these four young is something wonderful: 7 cherry stones (cultivated), 1 large larva, 1 worm, fragments of many beetles, several green beetles (whole), pieces of grass, weed stems, and stubble, 2 bits of oyster shell, numbers of tiny bits of stone (gravel), and about 1500 ants—red and black, adult and larvæ. All four possess the black

malar stripe, mixed with the throat color in two, and the ivory white tip of the upper mandible. One, a female with the mixed malar stripe, altogether lacks the red nuchal crescent. I did not discover the oddity in time to have secured the parent birds. If I had done so and one or the other had exhibited some additional characteristic of the Red-shafted Flicker, it would have been considered excellent proof of former hybridism. Such being not the case, and leaving out the small *auratus* group, the plain top of the head might almost be said to be one of the common characters of the genus; and as hard to account for in this instance as the unique specimen of the same species, with mandibles crossed, in the collection of Mr. L. S. Foster, of New York City.

Under the head of migration on pages 17 and 18 of the report, "N. Brighton" should read North Bridgton. The former is situated in northeastern Maine, while the place from which Mr. J. C. Mead reports lies in the southwestern section.

THE NEW YEAR'S DAY BIRD CENSUS.

Our first attempt to begin the year with a census of the birds in many different places, has resulted fairly well. While the number of reports is not great a genuine interest in this winter study is manifest. Everybody should know that at no time of year are birds wholly absent in any part of the United States where water is obtainable. The possibility of making a pretty accurate census of the birds in winter enables us to arrive at a pretty accurate estimate of the actual value of birds as destroyers of noxious animals and weeds. This is practical work.

With this good beginning let us look forward to more activity during the winter months next time.

Bristol, Conn.—More than a foot of snow; 25° to 60°; calm, clear. 8 a. m. to 4 p. m.

Bluebird, 6; Blue Jay, 9; Song Sparrow, 1; Winter Wren, 1; Crow, 4; Goldfinch, 25; Chickadee, 4; Red-breasted Nuthatch, 4; Golden C. Kinglet, 2; W. B. Nuthatch, 2; Downy Woodpecker, 2; Hairy Woodpecker, 2; Ruffed Grouse, 2; Meadow Lark, 5; Herring Gull, 7.

Tracks of a covey of six quails were found. FRANK BRUEN.

Central Park, New York City.—Time, nearly 3 hours. Start, 12 m. Weather, fine. Temperature, 35°-40°. Wind, very light, southwest.

Herring Gull, 850-1000, of which about 70 were in the immature brown plumage; Red-headed Duck, 3; Downy Woodpecker, 10; Starling, 11 (introduced); White-throated Sparrow, 6; Song Sparrow, 1; Cardinal, 1 pair; Brown Creeper, 2; White-breasted Nuthatch, 1; Robin, 2; total, 10 species. In refard to the ducks, one was positively a male Red-head, and I guess the others to be females of the same species. CHARLES H. ROGERS.

Geneva, N. Y.—The day was clear, bright, calm and warm, with snow enough for fair sleighing. Time, 9:30 a. m. to 2:20 p. m.

Crows, 200 to 300 in scattered flocks; Meadowlark, 1 (very rare winter resident here); Downy Woodpecker, 4; White-breasted Nuthatch, 4; Chickadee, 12; Brown Creeper, 2; Golden-crowned Kinglet, 2; Junco, 2; Tree Sparrow, 20.

It may be of some interest to you to know that a specimen of the Arctic Three-toed Woodpecker was seen here October 15 to 20, a very rare visitant of late. F. H. HALL.

East Point, Ga.—I beg to hand you below, my list for January 1st. I regret that it is so small, but while it does not contain several species known to be here, it does include all that were seen on that day.

Mourning Dove (about 50), Turkey Vulture, Hairy Woodpecker, Downy Woodpecker, Pileated Woodpecker, Phœbe, Crow, American Goldfinch, White-throated Sparrow, Field Sparrow, Song Sparrow, Swamp Sparrow, Cardinal, Loggerhead Shrike, Carolina Wren, Chickadee, Golden-crowned Kinglet, Ruby-crowned Kinglet, Bluebird. WM. J. MILLS.

Kirkwood, DeKalb Co., Ga.—Lat. 33°, 30′; Alt. 1150. Day cloudy; Temp. 55°. East wind.

Turkey Vulture, Coopers Hawk, Downy Woodpecker, Flicker, Phœbe, Blue Jay, American Crow, American Goldfinch, White-throated Sparrow, Vesper Sparrow, Field Sparrow, Chipping Sparrow, Slate-colored Junco, Song Sparrow, Towhee, Cardinal, Cedar Waxwing, Pine Warbler, Carolina Wren, Brown Creeper, Tufted

Titmouse, Carolina Chickadee, Golden-crowned Kinglet, Ruby-crowned Kinglet, Hermit Thrush, Bluebird.

ROBERT WINDSOR SMITH.

Cadiz, Ohio.—Time, 10:35 a. m. to 1:15 p. m., and 3:25 to 4:15 p. m. Clear; wind barely perceptible; temp. at 7 a. m., 6°; at 12 m., 36°; at 6 p. m., 32°. About five inches of snow. Distance walked, about six miles.

Bob-white, four flocks, about 70; Mourning Dove, 11; Red-tailed Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 7; Red-headed Woodpecker, 14; Red-bellied Woodpecker, 5; Flicker, 6; Blue Jay, 2; Goldfinch, 1; Tree Sparrow, 8; Junco, 20; Song Sparrow, 16, one singing softly; Cardinal, 12; Carolina Wren, 6, singing; White-breasted Nuthatch, 7; Tufted Titmouse, 9, one singing "Here, here, here;" Chickadee, 3; Robin, 2; Bluebird, 3, singing "trually, trually." Total, 20 species; about 206 individuals.

HARRY B. McCONNELL.

Wooster, Ohio.—Bob-white, Red-tailed Hawk, Hairy Woodpecker, Downy Woodpecker, Red-headed Woodpecker, Red-bellied Woodpecker, Flicker, Blue Jay, Goldfinch, Tree Sparrow, Slate-colored Junco, Song Sparrow, Cardinal, Carolina Wren, White-breasted Nuthatch, Tufted Titmouse, Chickadee, Robin, Bluebird.

ALBERT I. GOOD.

Licking Reservoir—Fairfield and Licking Counties, Ohio.—Start made at Millersport, at 7:00 a. m.; thence east and north, returning at 3:00 p. m. Reservoir completely frozen over. 2 1-4 inches of snow on the ground. Heavy hoar frost; clearing by nine o'clock: bright sun by noon. Birds scarcely astir before 9:00 a. m.

Mallard, 1; Cooper's Hawk, 1; Sparrow Hawk, 3; Hairy Woodpecker, 3; Red-bellied Woodpecker, common; Horned Lark, one flockof 30; Crow, common; Goldfinch, 3; Slate-colored Junco, rather scarce; Cardinal, common; Brown Creeper, 2; Red-breasted Nuthatch, 1; Chickadee, very common; Bluebird, about 20; Black Duck, 2; Red-shouldered Hawk, 2; Screech Owl, 1; Downy Woodpecker, common; Northern Flicker, common; Blue Jay, very common; Rusty Blackbird, 2; Tree Sparrow, very common; Song Sparrow, abundant; Carolina Wren, 6; White-breasted Nuthatch, common; Tufted Titmouse, common; Carolina Chickadee, 6. Total 27 species.

This list falls two short of a horizon made December 2nd, over a part of the same course; but the December list includes seven species of water-birds now, for the most part, driven further south by the ice.

W. LEON DAWSON, Columbus, O.

Delaware, O.—Time, 8 to 11 a. m., and 12:30 to 4 p. m. Ground covered with snow, heavy frost and dense fog at start, clearing later; no wind; temperature, 6°.

Downy Woodpecker, 11; Hairy Woodpecker, 9; Red-headed

Woodpecker, 2; Red-bellied Woodpecker, 6; Flicker, 3; White-breasted Nuthatch, 16; Tufted Titmouse, 27; Black-capped Chickadee, 5; Bob-white, 15; Junco, 100; Tree Sparrow, 50; Song Sparrow, 18; Sparrow Hawk, 2; Hawk, not identified, 2; Belted Kingfisher, 1; Crow, 1; Mourning Dove, 16; Carolina Wren, 7; Cardinals, 7; American Goldfinches, 5; Blue Jay, 12.

Species, 21. Individuals, 315. IDA NEWELL.

Oberlin, Ohio.—Time, 6:30 a. m. to 4:30 p. m., clear; wind southwest light. Tem. 21 degrees to 40 degrees. Snow 5 inches deep at Oberlin to 1 inch at Lake Erie. Oberlin via Chance Creek to Oak Point on Lake Erie. Distance 18 miles.

Blue Jay, 19; Downy Woodpecker, 6; Hairy Woodpecker 9; Red-bellied Woodpecker, 2; White-breasted Nuthatch, 29; Tufted Titmouse, 18; Chickadee, 18; Song Sparrow, 8; Cardinal, 3; Goldfinch, 4; Bob-white, 13; Junco, 60; Tree Sparrow, 70; Red-tailed Hawk, 2; Mourning Dove, 2; Red-shouldered Hawk, 1; Barred Owl, 2; Snowflake, 2; Carolina Wren, 1; Golden-crowned Kinglet, 2; Flicker, 3; Robin, 2; Broad-winged Hawk, 1; Crow, 8.

24 Species, about 285 Individuals. LYNDS JONES.

Place, Hinsdale, Ill.—Woods and fields, 7-11 a. m., 4-5 p. m. Sky clear, wind southwest, temperature 32 degrees. Brown Creeper, 3; Chickadee, 10; Goldfinch, 4; Crow, 11; Blue Jay, 27; Flicker, 1; Junco, 50; Downy Woodpecker, 5; Cardinal, 1; Red-breasted Nuthatch, 2; Tree Sparrow, 105 x; Song Sparrow, 1.

Verified by four witnesses. ESTHER A. CRAIGMILE.

While this is not strictly a New Year Censo-Horizon, it is of too great interest to lose.

New Year Horizon, Jan. 10, 1903.—Weather, forenoon, clear; afternoon, cloudy and snowing. Start, 5:30 a. m. Return, 8:30 p. m. Temperature, zero. Wind, west. Distance traveled, 40 miles. Nearly all birds were recorded Sugar Creek, Lee County, Iowa, and the adjacent woods and fields. In addition to those named were two flocks of Prairie Chickens in two different cornfields. These I was unable to flush, though their fresh tracks were abundant in the snow. Without these the number of species was 19. Number of individuals, 1526. All were seen between 7 a. m. and 5 p. m.

Bob-white, 6; Mourning Dove, 2; Hairy Woodpecker, 9; Downy Woodpecker, 25; Red-bellied Woodpecker, 11; Flicker, 4; Crow, 55; Blue Jay, 28; Purple Finch, 37; Goldfinch, 150; Tree Sparrow, 499; Slate-colored Junco, 582; Song Sparrow, 11 Cardinal, 6; Northern Shrike, 1; White-breasted Nuthatch, 16; Tufted Titmouse, 6; Chickadee, 78; American Robin, 1. R. L. BAIRD.

Denmark, Iowa.

INFORMATION WANTED.

We are much pleased to announce that beginning at once there will be two lines of special investigation pursued until a finished report can be prepared for each. No doubt other lines of special work will be developed during the year, which will be announced when the methods of investitigation can be worked out.

Mr. Alex. W. Blain, Jr., desires information of any sort concerning the Great Blue Heron (*Ardea herodias*). Mr. Blaine desires a complete set of notes from any and all who have had any experience with this heron, whether as a migrating bird, as a winter bird, or as a breeding bird. His object is to prepare a complete life history, to be published as a special Bulletin, when it shall be ready. For further information address Alex. W. Blain, Jr., 131 Elmwood Ave., Detroit, Mich.

The editor has long had in mind the investigation of the Mourning Dove (*Zenaidura macroura*). He has already made some progress and desires the cooperation of every member and reader in the preparation of a life history of this well known bird. He hopes to determine the exact bounds of its range at all seasons of the year, its method of nesting throughout the whole country where it nests, its periods of song, its methods of molting, the care of its young, the maximum number of eggs ever deposited, its standing as a destroyer of weeds and grains, in fact, everything possible to learn about it. Any notes concerning the dove will be welcomed.

The success of any cooperative study such as these proposed, largely depends upon the heartiness with which every one enters upon his part of the work. Feel yourself called upon to help in any way possible. Your contribution of notes will form an important part of the record of these life histories. Begin now to gather new material for this contribution, finding where your information is week or lacking. It will do you good to fill out the gaps in your own records.

A MAY-DAY HORIZON.

Readers of the BULLETIN are only too familiar with the editor's and Dawson's "All Day with the Birds." They come with annual regularity. It has been a perpetual disappointment that no one else seemed interested to "go and do likewise." Each locality has its own peculiar conditions more or less favorable to the birds during their migrations. Would it not be worth the effort to know what the maximum of bird life in one day is in your locality? For most localities that maximum comes between the 25th of April and the 15th of May, for a series of years, depending, of course, upon the latitude of the place. For northern Ohio it seems to fall close to May 8th. The editor would be greatly pleased to receive so-called May-day horizons from every reader of this notice. Let it be understood that such a horizon may be taken at any time during the warbler migrations in late April or early May, and let it be an all day horizon. The birds are too numerous during that time to make a census of them; besides that would waste valuable time. Plan well in advance to devote one whole day to the birds during the coming spring migration, and report your success. A number of such pieces of field work would prove interesting and instructive to readers of the BULLETIN. Plan the territory to be covered, and work over such parts of it as may be necessary to learn in advance where some of the less common breeding species may certainly be found. The editor would be glad to give whatever of his experience might be helpful in making this special effort. It is a long time before May, but a resolve made now will carry that far. Experience has proved to me that such a supreme effort is worth more than can be communicated in words.

ATTENTION, OHIO OBSERVERS.

Information is especially desired concerning the status or occurrence in this State of the following species. Some of them are merely under suspicion as probabilities; some are just coming to recognition as newly elaborated sub-species; others, once reckoned common by our ornithological fathers, have unaccountably passed from our ken; others still, while well known residents of our State, occupy variable areas, or occur within limits not satisfactorily determined. In preparing a book on the Birds of Ohio the writer is both discovering the weak places in his own armor, and waking up to the fact that many likely species are being allowed to pass unnoticed by the majority of observers. Any information received will be gratefully acknowledged in these columns or in the pages of the book:

Ring-billed Gull (Larus delawarensis).
Red-legged Black Duck (Anas obscura rubripes).
Cory's Least Bittern (Ardetta neoxena).
Yellow Rail (Porzana noveboracensis).
Black Rail (P. jamaicensis).
American Goshawk (Accipiter atricapillus).
Saw-whet Owl (Nyctala acadica).
Olive-sided Flycatcher (Contopus borealis).
Yellow-bellied Flycatcher (Empidonax flaviventris).
Hoyt's Horned Lark (Otocoris apestris hoyti Bishop); recently elaborated. Probably abundant in winter.
Prairie Horned Lark (O. a. praticola) in winter.
Thick-billed Redwing (Agelaius phœnicus fortis Ridgw.) in early winter and early spring.
Dickcissel (Spiza americana). What is its range?
Philadelphia Vireo (Vireo philadelphicus).
Northern Parula Warbler (Compsothlypis americana usneæ).
Sycamore Warbler (Seirus noveboracensis notabilis).
Bewick's Wren (Thryomanes bewickii).

W. LEON DAWSON, Columbus, O.

THE WILSON BULLETIN.

A Quarterly Magazine Devoted to the Study of Living Birds.
Official Organ of the Wilson Ornithological Club.

Edited by LYNDS JONES.

PUBLISHED BY THE CLUB, AT OBERLIN, OHIO.

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Subscriptions may be sent to Lynds Jones, Oberlin, Ohio, or to Mr. Frank L. Burns, Berwyn, Penn., or to Mr. John W. Daniel, Jr., 3146 Q street, N.W., Washington, D. C.

EDITORIAL.

The June Bulletin will contain a list of the birds of DeKalb county, Georgia, compiled by our fellow member, Robert Windsor Smith. The editor hopes that this will be but the first of several such lists from localities where the birds are not well known. It is only necessary for a local list to give evidence of careful, conscientious work with the birds for it to find a welcome in this Bulletin. Such a list is greatly needed for the encouragement of those who are beginning the study of birds in your locality.

We are pleased to state that the vote to reorganize under the name of The Wilson Ornithological Club was unanimous. It seemed clear to all that such a move would be a distinct gain in all ways. We still remain a corresponding organization, but can change to one holding annual meetings whenever that may seem feasible. Our work has already been done by correspondence, and the results prove that such a course is both possible and fruitful of results which we have reason to point to with pride. We still place strong emphasis upon the study of living birds, but may be led into the study of specimens to round out a study of some species or complete an investigation of a life history. We do not expect to enter the field of the systematist and taxonomist simply because we lack the training and facilities. We do not pose as a society of bird protectors, but we expect to exert all our influence toward a

sane policy of protection everywhere and at all times. While we stand for field study because we believe that here we can do the most good to the cause, we still hold ourselves plastic enough to enter any field of study and investigation which may promise large results in the increase of knowledge.

The call for a vote upon the proposition to create two new sorts of members resulted in the adoption of the proposition. Hereafter the membership will consist of Active, Associate, Honorary, and Life members, and Patrons, each of which is defined in the constitution. It is believed that the establishment of a permanent membership and a permanent fund resulting from such membership will give to the organization a firmer basis. The Constitution required revision because of the reorganization and is now presented after careful revision. It has been sent to all members, and will be furnished to any others who signify a desire to see it. Its main features have stood the test of ten years of use. Several details made necessary by the changes noted above, have been introduced, but as a whole it is the same Constitution under which we have been working all along.

Many reports from the country east of the Mississippi River mention the unusual numbers of Robins, Bluebirds and Blackbirds which are spending the winter far north of their usual winter quarters. Even in the Adirondacks considerable numbers of these birds have been found this winter. We trust that this indicates the development of hardier races of these birds, with a strong probability that succeeding winters will show an increasing number of these and other species in the more northern regions.

Elsewhere attention is called to another proposed Horizon. It becomes clearer as the seasons come and go, that daily horizons made with a definite plan and with conscientious care, are of far greater value to the bird student, and will prove of far greater value in the future comparisons of records, than most persons realize. We feel justified, therefore, in offering incentives and suggesting times for making such Horizons. Whenever possible, these Horizons should also be a census for the region covered. These "Censo-Horizons" are the only basis for accurate comparisons between different localities as well as between different times. It becomes clearer as we get farther into bird work, that statements of relative abundance of species based upon general impressions are of doubtful value. Therefore, keep an accurate record of the birds which you see and hear when you are out for study, and never

fail to record the conditions under which the work was done: time spent, time of day, character of country covered, weather, temperature. It will pay.

The editor has already hinted that special investigations will be attempted during the year. He is pleased to call attention to two calls for help on life histories of two interesting and well known birds, on another page. No doubt others will be announced later. Every member should feel called upon to do what he can to contribute notes for the use of those who undertake this work. Don't make the mistake of withholding your notes because they are too incomplete. They are likely to be just what is wanted to fill up a gap in a chain of evidence. Those who undertake the investigation feel assured that there are gaps in the life histories of these birds which can be filled if persons will contribute what they know about them. The object of these investigations is to bring together the scattered notes.

The following communication has just been received:

The Michigan Ornithological Club was re-organized at Detroit, February 13, at a meeting called for that purpose at the residence of Alex W. Blain. The following officers were elected: President, A. B. Covert, of Ann Arbor (our oldest ornithologist); Vice-President, Dr. P. A. Moody, of Detroit; Secretary and Treasurer, Bradshaw H. Swales, of Detroit; Editor and Business Manager, Alex. W. Blain, Jr. Considerable interest is shown in the Club and about 65 members have already joined, including nearly all the best ornithologists in the state. One of the main objects of the Club will be Bird Protection, which the state sadly needs. A committee of Edwin Arnold, of Battle Creek; James B. Purdy of Plymouth; Prof. Walter B. Barrows, of the Agricultural College, was appointed to act with Wm. Dutcher, of the A. O. U., in preparing the way for the introduction of the A. O. U. law in the coming session of the legislature. Another object is the compiling and publication of an authentic state list. The Club will publish a quarterly bulletin under the name of the former Club's publication, "The Bulletin of the Michigan Ornithological Club." Monthly meetings will be held at Detroit, with an annual meeting at Ann Arbor in co-operation with the Michigan Academy of Science.

Detroit, Mich. BRADSHAW H. SWALES.

We heartily welcome to active work this sister organization which did so much for Michigan ornithology during its former activity. We predict for it a future full of valuable results.

The following announcemnt of Dr. Elliott Coues' Revised "Key" is of interest to all:—

Messrs. Dana Estes & Co. announce that the fifth revised edition of the "Key to North American Birds," by Dr. Elliott Coues, so long and patiently awaited by the public, will be ready in the spring

of 1903. The reason for the unusuual delay in its publication may be briefly stated. When Dr. Coues died in 1899 he left the manuscript wholly finished, but the copy was rendered hard to decipher without the exercise of most intelligent care by reason of innumerable interlineations, erasures, abbreviations, "riders," and detached notes, written in a minute and sometimes difficult handwriting. It was evident that had the Doctor lived he would have cast his material, although entirely complete as he left it, into a form which would present fewer difficulties to the compositor. His sudden death left the copy in such shape that the task of revision and preparation for the press required double the amount of work that had been anticipated. The publishers, however, have had the good fortune to obtain the services of a thoroughly equipped ornithologist, who has read the proof with the most painstaking care, which has been ably supplemented by the efforts of a number of professional proof readers. The result is a book which Dr. Coues would have been proud to own as the crowning work of his life. The publishers announce it as being absolutely authoritative and definite, and express confidence that it is entirely free from errors of statement or form.

Some of the features which will make the work more than ever indispensable to ornithologists, professional as well as amateur, may be briefly summarized:

1. The detailed, careful, descriptions of species—as in former Keys.

2. The accounts, much fuller than in former editions, of the breeding habits of birds—dates, nests, and particularly the detailed description of eggs, with careful measurements of same.

3. The full collation in the text (not an appendix as in former editions) of the nomenclature of species in the Key, with the nomenclature and numeration of the American Ornithologists' Union Check List (of especial help to students).

4. The full synonymies and bibliographical references in the case of nearly all species—a new feature of the Key, and invaluable to students of all degrees of advancement. To the preparation of this important feature of the last edition of his Key, Dr. Coues brought his rare gifts as bibliographer and nomenclator. The amount and painstaking character of this work makes it possible for the student to extend with ease his researches in the case of a great many species.

5. The professional discussion of questions of classification and nomenclature by perhaps the most eminent of modern ornithologists.

6. The introductory (i.e., general) descriptions of ordinal, family, and other groups, are much amplified over those in preceding editions of the Key, being of a broader scope, which make plain the comparative relationships of North American families, genera,

and species of birds, with extralimital forms (Old World and Neotropical). This broad treatment makes of the Key more than the merely faunal work which its title would imply— i.e., while it is still emphatically a Key to North American Birds, it contains more than ever in the past, much general information in regard to birds.

7. An invaluable feature of preceding editions—the scholarly explanation of the etymology of scientific names—is retained, and will continue to make the key unique among works of its class.

Throughout the Key—in all departments, life histories, descriptions, etc.,—Dr. Coues' famouus descriptive powers are fully displayed as in the past

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A BIRD RESTAURANT AND OTHER NOTES.

As usual I've been running a daily lunch counter just outside my west windows on an elm tree. Every day there come to it many times Brown Creepers, White-breasted Nuthatches, Red-bellied, Hairy and Downy Woodpeckers, Cardinals (I am feeding in the chicken yard four pairs of Cardinals, while over the fence in the corn field 9 Bob-whites are my guests), Carolina Wrens, Tufted Tits, and Chickadees, while at intervals Juncos and Song Sparrows gather up the crumbs. I find that the Red-belliel Woodpecker likes walnuts and butternuts best of all, the other two eat nothing but the suet. The Nuthatch, Tufted Tit and Chickadee probably like the nuts best, but they are almost equally fond of broken oyster crackers. Suet seems to suit the Brown Creepers. I have had eleven birds at once waiting their turn. December 14th a Yellow-bellied Sapsucker was close by for a half hour..

January 7th the first Robin. Jaunary 25th we saw a Crow and a Flicker. But our crowning triumph on last Sunday was a **Mimus polyglottos!** A sure enough Mockingbird. We were three miles north of town, ground covered with snow, temperature about 40°. Arrick first saw it in a tangled thicket through which ran a stream of water, and as it flew, we both took it to be a strike. We actually killed it for fear our veracity might be questioned, and ever since we have regretted it. I'm awfully sorry that bird isn't alive and well, for what unfold pleasure we might have had, as spring opened, with its song among the blossoming hawthorns. I won't do it any more.

C. H. MORRIS, McConnelsville, Ohio.

GENERAL NOTES.

Red-headed Black Duck (Anas obscura rubripes).—In looking over the O. S. U. collections, I find that we have no specimens of typical **obscura**. Four birds taken in Ohio, at the Licking Reservoir, have heavily streaked throats and larger proportions which would mark them as **A. o. rubripes.** No data of life colors were preserved. It would seem quite possible, as Mr. Brewster rather intimates, that the newly elaborated species is the common bird of the interior.

Carolina Chickadee (Parus carolinensis).—Of this species Wheaton says, writing, of course, from Columbus: "Not common summer resident. Breeds. Arrives about the middle of April, apparently departs for the South soon after the breeding season." I have failed as yet to identify the Carolina Chickadee at any season here in Columbus, but came across a merry party of them who were transgressing all the rules, while taking my New Year's day horizon near the Licking Reservoir. In the first place, there they were, six of them, mingling freely in a bird troop which included as many more of their cousins, the Black-caps, beside Tufted Tits, Brown Creepers, Bluebirds, etc. The authorities declare them to be solitary in their habits. Then their occurrence so far North in winter is at least unusual. A high pitched note, beginning with a sneeze, and repeated twice, "Kechezawick, Kechezawick," first attracted my attention to the birds, but I was soon able to distinguish them readily in the troop by their smaller size. A specimen secured set all doubt at rest. Hereafter I shall carefully scrutinize all winter Chickadees occurring along the fortieth parallel.

W. LEON DAWSON, Columbus, O.

The Herring Gull (Larus argentatus) is generally credited with being a scavenger, but how entirely he lacks fastidiousness in his feeding is shown by the flocks that daily feed in the South branch of the Chicago River where it runs (crawls rather) by the stockyards, and in its "slips," where the vessels tie up for the winter. I doubt if a more offensive piece of wateri is found on the continent. Its odor is unspeakable until zero weather, yet from the time the gulls return in the fall until they leave in the spring they circle in all their grace over these filthy waters, feeding from the floating refuse, which they seem to pick from the surface without so much as wetting a feather—they may be more careful of their clothes than of their food. Audubon, by experimenting, decided that crows have little or no sense of smell. I think there can be little doubt the same is true of the gull. Whether the birds pass the night in the stock yards or not I do not know, but in the morning, about 7 o'clock, I frequently see flocks flying from here (about a quarter mile from the lake shore) toward the northwest—the

direction of the stockyards—but I have never happened to see any returning in the evening.

AGNES CHASE, Hyde Park, Chicago.

A Bob-White Tragedy.—The lower animals as well as man are subject to many ills and accidents. This is well illustrated by the number of incidents which are noted in natural history magazines. Instinct, it is true, has taught them much, yet nevertheless, they are constantly in danger of their lives.

One day last spring (April 20, 1902), while tramping the woods and fields north of Detroit, we saw an object hanging to a wire fence. Upon nearing it, it proved to be a female Bob-white (Colinus virginianus). The right foot had become tangled in a loop in the wire, and in trying to escape, the bird had disarticulated the leg bone from the hip. Here it must have hung for hours until death at last relieved it of its tortures. Who can imagine the pain which this creature must have suffered?

On a log a short way from the scene sat a male of this species, possibly its mate. Across the fields rang a gentle "Bob-white, a Bob-white," and as I paused I thought, "Ignorance is bliss."

A. W. BLAIN, Jr., Detroit, Mich.

PUBLICATIONS RECEIVED.

The Story of a Martin Colony.—By J. Warren Jacobs. This, the second of a series of ilustrated pamphlets based on the author's researches and observations, the first being issued in 1898 under the title of **Oological Abnormalities**; is a record of the establishment and maintenance of a colony of four or five pairs of Purple Martins at the writer's home in Waynesburg, Green County, Penn., and of its subsequent increase until it numbered almost three hundred individuals at the end of the fourth season—more than could obtain lodging in the ninety-nine rooms of the three houses, over one hundred being compelled to roost in the branches of a nearby apple tree. The next three years witnessed an annual overflow, accommodated by new houses furnished and erected by his experienced hand in various parts of the town. If the colony had remained intact it would in all probability have numbered in the neighborhood of twelve hundred birds at the end of the seventh year.

After the introduction, the subtitles are as follows: Topographical Sketch and Existing Conditions of the Premises and Vincity, Establishment and Subsequent Scenes of the Colony, Return from

the South, Nest Building, Deposition and Number of Eggs, Incubation, The Growing Young and the Parent's Care, Something about their Food, Their Enemies, Causes of Death, etc. Off to the South, A Chapter on a Cabinet Series of Their Eggs, On the Construction of Houses.

The period of incubation is found to be from twelve to fifteen days, the female apparently attending to this duty exclusively, and twenty-four to twenty-eight days elapses before the young take flight. Seven years records show about eleven hundred and fifty eggs deposited and about eight hundred and fifty young reaching maturity, or rather, taking flight from home nest—almost 74 per cent! A remarkable showing for so large a colony of birds. It is interesting to note that in nearly every instance a wall of mud was built around the front of the entrance, on the inside. One would wish, perhaps, for more detailed plans and specifications for building their homes, but after all the main points appear to be compartments about 5 inches square and 6 inches high, with a single entrance two and a half inches square or two and three-quarters inches in diameter if round, and the whole elevated twelve or more feet above the ground on a pole or gas-pipe. Constant attention during the nesting period, with frequent use of the gun on the cats and sparrows, and an occasional appeal to the law when the disturbers belonged to that class termed "shooters" well named and far too common as well; was no small part of the price paid for this splendid mass of strenuous bird life. In this paper of twenty-four pages, Mr. Jacobs has, in a dignified manner, given the lie to the mere sentimentalist who would brand every egg collected as a sordid distroyer of life without a redeeming feature. It should be in the hands of every bird lover. F. L. B.

The Birds of North and Middle America.—By Robert Ridgway. Part II. Bull. No. 50, U. S. Nat. Mus., Washington, 1902.

This is the second of the eight volumes which we are promised, and fully maintains the high standard of the first volume. In the 834 pages of text the following families and number of species under each are fully treated: Tanagridæ, 112; Icteridæ, 111; Cœrebidæ, 29; Mniotiltidæ, 181. We await with great interest and some impatience the appearance of the other six parts, which are promised at the rate of two each year. L. J.

The Metallic Feathers from the Neck of the Domestic Pigeon. By R. M. Strong, Ph.D.

Reprint from the Biological Bulletin, Vol. III, Nos. 1 and 2, 1902.

A Case of Abnormal Plumage. By R. M. Strong, Ph.D.

Reprint from Biological Bulletin, Vol. III, No. 6, November, 1902.

The Development of Color in the Definitive Feather. By R. M. Strong, Ph.D.

From the Bulletin of the Museum of Comparative Zoology at Harvard College, Vol. XL. No. 3.

These three notable papers by Dr. Strong are results of his course of study in the graduate department of Harvard University. The last named paper summarizes the results of investigations on the development of color in feathers, and incidentally shows the extreme improbability of change of color in feathers without molt, except by the wearing away of the tips of feathers, which will simply eliminate that part of the feather with its color. This has been so carefully and thoroughly done that we may accept as final the conclusions reached. In fully grown feathers the change of the pattern of color by a redistribution of its pigment is not possible. L. J.

On the Classification of Certain Groups of Birds (Supersuborders: Archornithiformes; Dromæognathæ, Odontoholcae.) by R. W. Shufeldt.

Reprint from the American Naturalist, Vol. XXXVII, No. 433. January, 1903.

This paper is one of a series in which Dr. Shufeldt is giving the results of a great amount of study upon the osteology of birds, both extinct and living. The classification of extinct birds must necessarily be based upon the bones. Comparison with the skeletons of modern birds forms a basis for determining the relative position which those old forms should occupy in a general scheme of classification. Our thanks are due Dr. Shufeldt for the pains he has taken to bring order out of chaos where the ancient fossil forms are concerned, as well as for his contributions to modern classification based upon skeletal characters. L. J.

Amateur Sportsman, The, Vol. XXVII, Nos. 2, 3, 4.

American Ornithology, Vol. II, No. 12. Vol. III, Nos. 1, 2.

Bulletin Nos. 61, 62, Pennsylvania State College Agricultural Experiment Station.

Bird- Lore, Vol. V., No. 1.

Cassinia, No. VI, 1902.

Condor, The, Vol. V, No. 1.

Floral World, The, Vol. II, No. 3.

Journal of Applied Microscopy, Vol. V, No. 12. Vol. Vi, No. 1.

Journal of the Maine Ornithological Society, Vol. V., No. 1.

Maine Sportsman, Vol. X, Nos. 112, 113, 114

Ohio Naturalist, Vol. III, Nos. 1, 2.

Plant World, The, Vol. V, Nos. 8, 9, 10.

Warbler, The, Vol. I, No. 1.

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ELECTION OF NEW MEMBERS.

The following persons are nominated for Active membership:

Objections to the reception of any of these persons should be sent to the Secretary before April 15.

Homer L. Bigelow, 511 Washington St., Boston, Mass.
Dr. Louis B. Bishop, 356 Orange St., New Haven, Conn.
Charles F. Brennan, Mt. Carmel, Ill.

Clarence Morrison Brooks, West Point, N. Y.
Henry W. Carriger, 2611½ Sutter St., San Francisco, Cal.
John Lewis Childs, Floral Park, N. Y.
Edward M. Daniel, Lynchburg, Va.
Lou J. Eppinger, 516 Chene St., Detroit, Mich.
Miss E. W. Fisher, 1502 Pine St., Philadelphia, Pa.
Hon. Junius Henderson, Boulder, Colo.
W. P. Lyons, 10-11, 41 E. Fourth St., Cincinnati, O.
Miss Rebecca Morehead Leete, North East, Pa.
Herbert H. Marble, Box 14, Somerset, Mass.
Harold E. Porter, 101 West 85th St., New York City.
Dr. W. E. Rotzell, Narberth, Penn.
Orpheus Schantz, Morton Park, Ill.
George H. Selleck, 110 High St., Exeter, N. H.
John E. Thayer, Box 98, Lancaster, Mass.
Miss Adelaide Utter, Clerk U. S. Circuit Court, Kansas City, Mo.
Warner W. Van Norden, 751 Fifth Ave., New York City.
Millard Van Wagner, 47 Leonard St., New York City.
Alick Wetmore, North Freedom, Wis.
Burtis H. Wilson, 1102 17th St., Rock Island, Ill.

The following persons have been received into Associate membership:

J. L. Floyd, Ada, O.
Harry S. Hathaway, Box 498, Providence, R. I.
Miss Isabella L. Sand, Ardsley-on-Hudson, N. Y.
Rev. George F. Weld, Lincoln St., Hingham, Mass.

NEST OF THE ORCHARD ORIOLE (*I. spurius.*)

Collected and photographed by the author.

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THE NEST OF THE ORCHARD ORIOLE.

(Icterus spurius)

BY DR. R. W. SHUFELDT.

During the past thirty years, at different times I have examined a number of nests of the Orchard Oriole (*Icterus spurius*), and these have been collected from the latitude of Washington, D. C., to that of southern New England. It is truly remarkable how much they vary, not only in the matter of form, but in the materials selected by the birds for their construction, and in the places chosen by them for their building. These variations and circumstances are doubtless responsible for the great differences we meet with in the descriptions and figures published by ornithological writers, no two of which ever seem to agree in their essential particulars. Among the descriptions left us by the earlier authors, we meet that of Audubon, and were we to judge from it alone, we would be fully justified in believing that the building of the nest of this species, the materials employed, and its location and form, were more or less uniform. Certainly he could have examined but very few of them, and these from a very restricted locality, or else the bird has very materially changed its habits since. In sub-

stance he says that the oriole *never* builds in any place excepting apple trees and the weeping willow; that they use "the finest, largest, and toughest grasses they can find." * * * "The nest is of a hemispherical form, and is supported by the margin only. It seldom exceeds three or four inches in depth, is open almost to the full extent of its largest diameter at the top or entrance; and finished on all sides as well as within, with the long slender grasses already mentioned. Some of these go round the nest several times, as if coarsely woven together. This is the manner in which the nest is constructed in Louisiana. In the Middle Districts it is usually lined with soft and warm materials."

Audubon's figure supports this description, but only in part—for having stated that the bird only builds in *apple trees* and *weeping willows*, he figures the nest in a honey locust! And, for one, I have never seen a nest of the Orchard Oriole that ever looked anything like it. Moreover, Audubon is utterly incorrect when he says that the nest "is supported by the margin only." (Birds of America, Vol. IV. pp. 47, 48.) Turning to Wilson's description of the nest of this oriole, we read that the structure is usually suspended "from the twigs of the apple tree; and often from the extremities of the outward branches. It is formed externally of a particular species of long, tough and flexible grass, knit or sewed through and through in a thousand directions, as if actually done with a needle. An old lady of my acquantance to whom I was one day showing this curious fabrication, after admiring its texture for some time, asked me, in a tone between joke and earnest, whether I did not think it possible to learn these birds to darn stockings. This nest is hemispherical, three inches deep by four in breadth; the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres, or stalks of dried grass, from the rest and found it to measure thirteen inches in length, and winding round and round the nest! The inside is usually composed of wool,

or the light downy appendages attached to the seeds of the *Platanus occidentalis*, or button wood, which forms a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being overset by the wind."

"When they choose the long, pendent branches of the weeping willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper, and of slighter texture. The circumference is marked out by a number of these pensile twigs that descend on each side like ribs, supporting the whole; their thick foliage at the same time, completely concealing the nest from view. The depth in this case is increased to four or five inches, and the whole is made much slighter."

Wilson then follows this, as far as it goes, accurate description with a very interesting dissertation upon the reasons why the Orchard Oriole builds so differently in different trees, and under diverse conditions.

The remarkable feature of all these early descriptions is, that so few *trees* are mentioned wherein this Oriole is known to build; that the nest is *always* fastened by the brim; and that the materials of which it is composed are so uniform. It very much inclines me to believe that the bird has, in the matter of its nest building, very materially changed its habits during the past half century or more. Surely it must have been a very abundant bird during Wilson's time, and he was not only a very intelligent but a very close and reliable observer.

Now when built among stiff twigs, the nest is by no means *always* fastened by its edges or brim alone; on the contrary the bird often sews it all the way down the body of the nest to a supporting twig. A fine example of the structure when thus built is shown in the accompanying photograph, it being a nest I collected near Washington, D. C., in the summer of 1897. It was in a three-quarter grown sycamore and was almost entirely devoid of a lining, the

grasses, too, of which it was composed being very coarse. I am of the opinion that young and unskilled birds of this species frequently build amateur nests; and it is only the older individuals that construct the finer and more elaborate fabrics.

When Special Bulletin No. 2 of Bendire's *Life Histories of North American Birds* appeared (June, 1895), we had given us under his account of the Orchard Oriole a very complete and excellent description of its nests and building. Among other facts he states that "Both sexes assist in nest building, and generally finish one in three or four days. The nests are placed in trees or bushes, from 6 to 40 feet from the ground, usually from 12 to 20 feet, in a great variety of trees, less often in conifers than in deciduous kinds. Apple, pear, different kinds of oaks, sycamore, elm, cottonwood, maple, walnut, mesquite, hackberry, prickly ash, cedar, and pine are a few of the many selected as the nesting sites. In the south the Orchard Oriole nests occasionally in the gray moss (*Tillandsia usneoïdes*) so commonly found hanging from many of the trees there."

"The location and manner of attaching its ingeniously wooven, basket-like nests vary greatly. Some are set in a crotch formed by several small twigs; the bottom of the nest occasionally rests on, and is supported by these, and again in similar locations it is unsupported, but the sides are securely fastened to several of the twigs among which it is placed; then again some are built in a fork of a horizontal limb, like the nest of an Acadian Flycatcher or a Vireo, both sides of the nest being fastened to the fork in which it is placed; again it may be fastened to some suitable twigs by the rim only, in the manner of a hammock. Comparatively few, excepting those of the last style and those built in moss, can really be called pensile or even semipensile nests. They also vary greatly in bulk and depth." Sometimes too, the bird uses the grass while green, and this color not only serves to further conceal the nest from view in the tree where it is built, but after the structure has been col-

lected, the color may be retained for years afterward. The cotton lined nests in the south, I am told, are very beautiful, being smooth and pure white inside.

One of the principal objects I have in publishing this article is to give added support to the fact that in the matter of their nest building many species of North American birds have gradually, but nevertheless markedly, during the past century, changed their habits in not a few particulars.

Sometimes the reasons for this are sufficiently clear, as in the case of the Chimney Swifts and others, but then, on the other hand, they are by no means always so obvious, though such cases are not of such frequent occurrence.

BIRDS OF KIRKWOOD, DeKALB COUNTY, GEORGIA.

BY ROBERT WINDSOR SMITH.

DESCRIPTION OF SECTION.

An estimated square mile in DeKalb county, Georgia, the northern boundary lying along the line of the Georgia railroad; the center of the specified tract being about four and one-half miles in an easterly direction from Atlanta, Georgia; situated on the dividing ridge between the waters of the Atlantic Ocean, and the Gulf of Mexico, at an elevatinn of 1050 feet above the level of the sea; latitude 35° 45′ north, longitude 84° 45′ 29″ west from Greenwich.

The water which falls on the northern side of the Georgia railroad flows into the Chattahoochee river, and thence into the Gulf of Mexico; that which falls on the south side flows into the South river, thence to the Ocmulgee, which empties into the Atlantic Ocean. About three-fourths of the tract comprises virgin forest, swamp, old burned-out fields, waste and neglected places. These waste and neg-

lected places have in many instances grown up in low pines, and briars, making, in some spots, almost impenetrable thickets. The remaining fourth includes the village of Kirkwood, a little place containing about four hundred people. Kirkwood is built upon what was once a farm, a beautiful place of one hundred and fifty acres. About ten years ago the land was purchased by a syndicate, which, after projecting a trolley line through it from Atlanta to Decatur, a distance of six miles, divided it into lots and sold the greater portion of it to persons, the most of whom were doing business in Atlanta. Upon this place is a passing remnant of a Cherokee rose hedge, that once grew the entire length of one side of the farm, whose white mantle of flowers added grandeur to the already beautiful landscape.

Here and there over the land where homes have not been built, a few scattered clumps of this old hedge can still be seen. The pits or seeds ripen late in the fall, and make a plentiful supply of food for the song sparrow, while the hedge itself lends a ready shelter against storm and danger.

There are no high elevations, or deep ravines in the tract, but the general "lay" of the land would be called hilly and rolling. The forest trees include oak, pine, hickory, yellow poplar, chestnut, blackgum, elm, ash, wild cherry, sassafras, water-oak, beech, swamp or red maple, and red-bud, crab-apple, sourwood, and holly are found, but not very plentifully. The blossoms of the crab-apple and sourwood are much sought after by bees, from which they gather a fine article of honey; the first blossoms early in the spring, the last late in the fall. In the swamps and on the edges of ditches grow a tangle of wild grapes, alder, elder, sumach, and bamboo; the whole being enlivened by the many tints of the flowers of the wild azalea. The soil is a sandy loam upon a stiff subsoil. There are no farms immediately within the tract, though there are plenty of persons in DeKalb county who make farming a business, cotton and corn being not only the principal, but the most profitable production. Wheat, rye, oats, and barley are cultivated to a limited ex-

tent. The sweet potato makes an "all 'round" crop, the man with only a small garden "patch" managing to produce a few for his own consumption. Peaches, pears, plums, apples, cherries, figs, and grapes do well in any part of the county. Strawberries and raspberries are easily raised, while blackberries grow wild in every old, neglected field. There is also a variety found in the swamps which attains to a larger size.

Gray squirrels, ground squirrels, skunks, opossums, minks, and muskrats are the indigenous wild animals. The opossums and skunks are fairly common, the others rare and seldom seen. Bull-frogs are plentiful; some large ones are caught in East Lake, while toads and tree-frogs are common, the latter oftener heard than seen. The snakes are water-moccasin, black, king, and chicken snakes, and some smaller species, the names of which I do not know. A box terrapin is occasionally seen, river tortoise are found in low, marshy places, both on the land and in the water, they sometimes become troublesome by destroying young ducks and goslings which happen to be swimming in the streams.

There are four species of lizards: one a kind of chameleon, which has a faculty of changing its color, it is sometimes green and sometimes brown; a scaly, rough-looking one, which lurks about old fences and the lower part of the trunks of trees; two others which are strictly terrestrial—one a trim little fellow with brown and yellow stripes upon a blue ground, the other a much larger one with a dark brown body with dirty stripes, the head being a reddish brown. The two last are swift runners, and are difficult to capture. They are both accused of being fond of ripe strawberries, but the damage which they do is, no doubt, overbalanced by the amount of insects which they destroy. The water used for domestic purposes is free-stone, and is obtained from wells at an average depth of forty feet. There are no navigable watercourses in the tract, nor in the county. East Lake, which is only an artificial lake or pond, lies about one-half mile outside the eastern limit, and covers

about thirty acres. There is a little pond within the western boundary which is commonly known as the "Chemical Pond." It is used as a pumping station by the Georgia Chemical Works, and embraces, probably, a space of one-half acre.

There are innumerable little streams, or branches as they are called in the South, traversing the tract, but with the exception of a few small minnows, no fish are found in them. These little fish are sometimes caught by boys and sold to parties who come out from Atlanta to fish in the lake.

BIRDS OF DEKALB COUNTY, GEORGIA.

Comprising the species observed during my stay in the county, embracing a period of little more than ten years.

1. **Podilymbus podiceps.** Pied-billed Grebe.—Casual. A few have been seen in East Lake. Not known to breed.

2. **Gavia imber.** Loon.—Accidental. One was taken in East Lake by an Atlanta sportsman, in November, 1896.

3. **Lophodytes cucullatus.** Hooded Merganser.—Accidental. One taken in East Lake by a Mr. Myer, of Atlanta, November 15, 1896.

4. **Anas boschas.** Mallard.—Casual. Sometimes seen in East Lake.

5. **Dafila acuta.** Pintail.—Accidental. One shot in East Lake by Mr. Simmons, of Kirkwood, in the winter of 1899.

6. **Botaurus lentiginosus.** American Bittern.—Accidental. Mr. Harry Pedleton showed me the skin of one of these birds, a short time after I moved to Kirkwood, which he claimed had been shot in a swamp near his house. Not known to breed.

7. **Ardea herodias.** Great Blue Heron.—Casual. Seldom seen. Not known to breed.

8. **Ardea cærulea.** Little Blue Heron.—Casual. I have seen several of these birds which had been taken near East Lake, all in white phase. Not known to breed.

9. **Ardea virescens.** Green Heron.—Not common. Summer resident; breeds. Nests generally in low pine trees, in thickets.

10. **Rallus elegans.** King Rail.—Accidental. On April 12th, 1893, I shot one of these birds in an old field a short distance from my home, which is the only specimen I have found in this locality.

11. **Rallus virginianus.** Virginia Rail.—Accidental. One of these birds was shot near East Lake, in February, 1899, by Mr. Simmons, of Kirkwood, and given to me.

12. **Porzana carolina.** Sora.—Casual. Seldom seen.

13. **Fulica americana.** American Coot.—Accidental. Mr. Fred Williams, of Kirkwood, on November 8th, 1900, shot one of these birds, a male, in a swamp near East Lake, and gave me the specimen. This is the only one that I have found in this locality.

14. **Philohela minor.** American Woodcock.—Not common. Winter resident.

15. **Actitis macularia.** Spotted Sandpiper.—Winter resident; only occasional.

16. **Ægialitis vocifera.** Killdeer.—Winter resident; lingering till late in the spring. Not common. Not known to breed.

17. **Colinus virginianus.** Bob-white.—Resident; breeds. Not common.

18. **Zenaidura macroura.** Mourning Dove.—Resident; fairly common; breeds. Appearing in flocks in winter.

19. **Cathartes aura.** Turkey Vulture.—Resident; fairly common; breeds.

20. **Circus hudsonius.** Marsh Hawk.—Casual. Seldom seen. Not known to breed.

21. **Accipiter cooperi.** Cooper's Hawk.—Not common, but more plentiful in the winter months. Not known to breed.

22. **Falco sparverius.** American Sparrow Hawk.— Not common; more plentiful in winter. Not known to breed.

23. **Megascops asio.** Screech Owl.—Fairly common; resident; breeds.

24. **Bubo virginianus.** Great Horned Owl.—Rare; seldom seen. Resident; breeds.

Hawks and owls are seldom seen or heard in DeKalb county. I have not heard of any serious depredation committed in my immediate neighborhood by these birds. I do not think their numbers are large enough to work injury to farmers or poultry raisers.

25. **Coccyzus americanus.** Yellow-billed Cuckoo.—Summer resident; fairly common; breeds. One of the last birds to arrive in the spring, and one of the first to leave in the fall.

26. **Ceryle alcyon.** Belted Kingfisher.—Summer resident; not common; breeds.

27. **Dryobates villosus.** Hairy Woodpecker.—Rare; seldom seen; not known to breed. Two specimens in my collection, one male and one female, taken in the winter of 1895, are the first and only birds of this species that I have seen in this locality until the present year.

28. **Dryobates pubescens.** Downy Woodpecker.—Fairly common; resident; breeds.

29. **Sphyrapicus varius.** Yellow-bellied Sapsucker.—Not common; winter resident.

30. **Melanerpes erythrocephalus.** Red-headed Woodpecker.—Fairly common; summer resident; breeds. [It is worthy of note that Loomis found this bird scarce in winter, though common

enough in the breeding season, in the Piedmont region of South Carolina.]

31. **Melanerpes carolinus.** Red-bellied Woodpecker.—Not common; winter resident.

32. **Colaptes auratus luteus.** Northern Flicker.—Resident; common; becoming plentiful in winter.

33. **Antrostomus carolinensis.** Chuck-will's-widow.—Spring migrant; rare; seldom heard or seen. Not known to breed. Four specimens taken in DeKalb county by several of my friends have come into my possession.

34. **Antrostomus vociferus.** Whip-poor-will.—Spring migrant; rare. Not known to breed. On April 19, 1900, I flushed one of these birds on the ground; it flew to the lower limbs of a large post oak tree, from which place it was shot. It proved to be a female, whose ovariss were much enlarged.

On April 26th, at 6:50 p. m., I heard the notes of another bird seemingly in the direction where the first one was taken, the notes lasting about ten minutes. These are the only instances I have on record of this bird appearing in DeKalb county.

35. **Chordeiles virginianus.** Nighthawk.—Summer resident; breeds. Fairly common; often gathering in numbers in the fall, when they are killed in large numbers by sportsmen.

36. **Chætura pelagica.** Chimney Swift.—Summer resident; common; breeds.

37. **Trochilus colubris.** Ruby-throated Hummingbird.—Summer resident; not common; breeds.

38. **Tyrannus tyrannus.** Kingbird.—Summer resident; not common; breeds.

39. **Myiarchus crinitus.** Crested Flycatcher.—Summer resident; fairly common; breeds.

40. **Sayornis phœbe.** Phœbe.—Winter migrant; rare; seldom seen.

41. **Contopus virens.** Wood Pewee.—Summer resident; fairly common; breeds.

42. **Cyanocitta cristata.** Blue Jay.—Resident; common; breeds. More plentiful in winter.

43. **Corvus americanus.** American Crow.—Resident; not common; breeds.

44. **Dolichonyx oryzivorus.** Bobolink.—Casual in spring and fall migration.

45. **Molothrus ater.** Cowbird.—Migratory in winter; appearing in flocks. Not known to breed.

46. **Agelaius phœniceus.** Red-winged Blackbird.—Migratory in winter; appearing in flocks, generally in company with Purple Grackle. Casual as a summer resident; a few returning in the spring to breed.

47. **Sturnella magna.** Meadowlark.—Winter resident; appearing

in loose flocks; frequenting old fields and waste places. Not known to breed.

48. **Icterus spurius.** Orchard Oriole.—Summer resident; fairly common; breeds.

49. **Icterus galbula.** Baltimore Oriole.—Rare, in the spring; some seasons not being seen. Not known to breed. It is a peculiar fact that this bird does not breed in this locality. Before the Civil War, when I was a boy living in Atlanta, it was not uncommon to find their nests hanging to the long pendant branches of the tulip tree.

50. **Scolecophagus carolinus.** Rusty Blackbird.—Migratory in winter; some seasons not seen.

51. **Quiscalus quiscula.** Purple Grackle.—Migratory in winter; appearing in large flocks. A few stragglers often seen late in the spring. Some seasons none are seen. Not known to breed.

52. **Carpodacus purpureus.** Purple Finch.—On February 15th, 1897, I found a small flock of these birds on the grounds immediately in the rear of my garden, feeding upon the dried tips (seeds) of tulip trree. Two males and two females were secured from the flock, which contained about twenty birds. They were missed on the 23rd. This is the only record which I have made of these birds in this locality.

53. **Astragalinus tristis.** American Goldfinch.—Resident; appearing in flocks in winter; fairly common; breeds.

54. **Pœcetes gramineus.** Vesper Sparrow.—Winter resident; fairly common. Not known to breed. These birds are irregular visitants. Some seasons they do not appear in the winter months, but are seen in the early spring, covering the fields in loose flocks. At such times on sunshiny days they join together in high concert, and their soft plaintive notes are heard wherever they happen to be. In their spring migration they remain but a short time, arriving about the 15th of March, and departing before the 1st of April.

55. **Ammodramus sandwichensis savanna.** Savanna Sparrow.—Winter resident; rare. One taken December 27th, 1900, the only specimen I ever found in this locality.

56. **Zonotricha albicollis.** White-throated Sparrow.—Winter resident; plentiful; seen everywhere. Arriving the latter part of October, and lingering till late in the spring.

57. **Spizella socialis.** Chipping Sparrow.—Resident; plentiful; found in flocks in winter; breeds.

58. **Spizella pusilla.** Field Sparrow.—Resident; common, but not so plentiful as socialis. Found in flocks in winter; breeds.

59. **Junco hyemalis.** Slate-colored Junco.—Winter resident; appearing in loose flocks; common.

60. **Peucæa æstivalis bachmanii.** Bachman's Sparrow.—Summer resident; rare; seldom heard or seen; breeds.

61. **Melospiza melodia.** Song Sparrow.—Winter resident; common; appearing in loose flocks.

62. **Melospiza lincolnii.** Lincoln's Sparrow.—Winter resident; rare. One taken January 24th, 1900; only one ever seen in this locality.

63. **Melospiza georgiana.** Swamp Sparrow.—Winter resident; seldom seen.

64. **Passerella iliaca.** Fox Sparrow.—Winter resident; rare.

65. **Pipilo erythrophthalmus.** Towhee.—Winter resident; fairly common. Not known to breed.

66. **Cardinalis cardinalis.** Cardinal.—Resident; fairly common; breeds.

67. **Zamelodia ludoviciana.** Rose-breasted Grosbeak.—Spring and fall migrant. Fairly common when found, but some seasons none are observed.

68. **Guiraca cærulea.** Blue Grosbeak.—Summer resident; rare; breeds.

69. **Cyanospiza cyanea.** Indigo Bunting.—Summer resident; fairly common; breeds.

70 **Piranga erythromelas.** Scarlet Tanager.—Spring and fall migrant; not common. More seen in the fall when it appears in winter plumage.

71. **Piranga rubra.** Summer Tanager.—Summer resident; common; breeds.

72. **Progne subis.** Purple Martin.—Summer resident; breeds. This bird, before the Civil War, was plentiful around Atlanta, the negroes never failing to put up poles, on which gourds were fastened for their nests. They have now, for the want of these accommodations, become rare, some seasons none are observed.

73. **Stelgidopteryx serripennis.** Rough-winged Swallow.—Summer resident; fairly common; breeds.

74. **Ampelis cedrorum.** Cedar Waxwing.—An irregular visitant in the spring, or fall, but always appearing in loose flocks. Some seasons none are seen.

75. **Lanius ludovicianus.** Loggerhead Shrike.—Summer resident, but lingering far into the winter. Not common. Some seasons none are observed.

76. **Vireo olivaceus.** Red-eyed vireo.—Summer resident; common; breeds.

77. **Vireo flavifrons.** Yellow-throated Vireo.—Spring and fall migrant; not common; not known to breed.

78. **Vireo noveboracensis.** White-eyed Vireo.—Summer resident; common; breeds.

80. **Helinaia swainsonii.** Swainson's Warbler.—I shot one of these birds on May 4th, 1898, in a dense swamp on Charles Davis' land about one-fourth mile from my home in Kirkwood. This is the only bird of this species that I have found in this locality.

81. **Helmitherus vermivorus.** Worm-eating Warbler.—Rare. A male shot by Rev. W. S. LaPrade on April 17, 1902, and a few days later another one was shot at the same place, the only ones recorded.

82. **Compsothlypis americana.** Parula Warbler.—Spring and fall migrant; fairly common; not known to breed.

83. **Dendroica tigrina.** Cape May Warbler.—Spring and fall migrant; not common.

84. **Dendroica æstiva.** Yellow Warbler.—Spring migrant; rare; not known to breed.

85. **Dendroica cærulescens.**—Black-throated Blue Warbler.—Spring migrant; rare; seldom seen. Generally found in dense swamps, and for that reason may be overlooked.

86. **Dendroica coronata.** Myrtle Warbler.—Spring and fall migrant; plentiful.

87. **Dendroica maculosa.** Magnolia Warbler.—Spring and fall migrant; fairly common; like D. coronata; generally seen in winter plumage.

88. **Dendroica pensylvanica.** Chestnut-sided Warbler.—Spring and fall migrant; fairly common.

89. **Dendroica striata.** Black-poll Warbler.—Spring and fall migrant; plentiful; our commonest warbler.

90. **Dendroica blackburniæ.** Blackburnian Warbler.—Spring and fall migrant; not common.

91. **Dendroica dominica.** Yellow-throated Warbler.—Summer resident; fairly common. Although I have never found the nest of this bird, I have seen the birds during all the summer. I have always found them in pine trees, and in the highest branches.

92. **Dendroica virens.** Black-throated Green Warbler.—Spring and fall migrant; not common.

93. **Dendroica vigorsii.** Pine Warbler.—Winter resident; lingering till late in the spring; common; not known to breed.

94. **Dendroica palmarum.** Palm Warbler.—Spring and fall migrant; not common.

95. **Dendroica discolor.** Prairie Warbler.—Spring and fall migrant; rare; seldom seen. Generally found in the early fall; breeds.

96. **Seiurus aurocapillus.** Oven-bird.—Spring and fall migrant; rare; seldom seen.

97. **Seiurus noveboracensis.** Water-Thrush.—I shot four of these birds in plum trees in my orchard August 30th, 1898; all males. These are the only specimens I have ever taken in Dekalb county.

98. **Seiurus motacilla.** Louisiana Water-Thrush.—Summer resident; rare; breeds.

100. **Geothlypis trichas.** Maryland Yellow-throat.—Summer resident; fairly common; breeds.

101. **Icteria virens.** Yellow-breasted Chat.—Summer resident; fairly common; breeds.

102. **Wilsonia mitrata.** Hooded Warbler.—Summer resident; fairly common; breeds.

103. **Setophaga ruticilla.** American Redstart.—Spring and fall migrant; common.

104. **Anthus pensilvanicus.** American Pipit.—Winter resident; appearing in flocks; fairly common.

105. **Mimus polyglottos.** Mockingbird.—Resident, and would be common if their nests were not destroyed, but they build in such exposed places that they seldom rear a brood. The Georgia legislature passed a bill at their last session (November, 1900), protecting these birds, but there is not much probability of its being enforced.

101. **Galeoscoptes carolinesis.** Catbird.—Summer resident; common; breeds.

107. **Toxostoma rufum.** Brown Thrasher.—Resident; common; but like the Mockingbird not often seen in winter; breeds.

108. **Thryothorus ludovicianus.** Carolina Wren.—Resident; fairly common; breeds.

109. **Thryomanes berwickii.** Berwick's Wren.—Fairly common winter resident; lingering until late in the spring.

110. **Certha familiaris fusca.** Brown Creeper.—Winter resident; not common.

111. **Sitta carolinensis.** White-breasted Nuthatch. Summer resident, but lingering far into the winter. Fairly common; breeds.

112. **Parus bicolor.** Tufted Titmouse.—Resident; common; heard or seen in all seasons; breeds.

113. **Parus carolinensis.** Carolina Chickadee.—Resident; common, always in company with P. bicolor. Rev. LaPrade found a nest in a stump, natural excavation about three feet from ground, on May 3, 1902, from which he took five eggs.

114. **Regulus satrapa.** Golden-crowned Kinglet.—Winter resident; common; generally found in low pine thickets.

115. **Polioptila cærulea.**—Blue-gray Gnatcatcher. Summer resident; fairly common; breeds.

117. **Hylocichla swainsonii.** Olive-backed Thrush.—Fall migrant; arriving about the 15th of September, departing about the 20th of October. Abundant; found everywhere.

118. **Hylochichla guttata pallasii.** Hermit Thrush.—Fall migrant; fairly common. Arriving early in September, but remaining but a few days, they are generally gone by the time the Olive-backs arrive.

119. **Merula migratoria.** American Robin.—These birds are irregular visitants, sometimes a few are seen in September, remaining but a short time, often seen again in November, the greater part of them appearing in January. When they depart they straggle away a few at a time, a few being seen as late as the 15th of April. Some seasons only a few are observed, but they often arrive in

large numbers, where they may be found on the ground upon any old barren spot. They are particularly fond of old burned off fields; here hundreds are killed by gunners, mostly boys. Not known to breed.

120. **Sialia sialis.** Bluebird.—Resident. This once plentiful bird, is now becoming rare. Not until the present season have they been known to breed in this locality since the spring of 1894.

121. **Passer domesticus.** European House Sparrow.—We are not much annoyed by the English Sparrows in Kirkwood. There are but few places here where they have built nests, or in any way become a nuisance. In the fall they may be often seen in large numbers, frequenting fields where German millet and other small grain has been harvested.

Ordinarily as many as two hundred could be counted in a day's travel, but their presence is not perceptibly felt outside of the city limits of Atlanta, which joins the Dekalb county line about two miles directly west from Kirkwood.

There is an old house a short distance from my home, a kind of neglected tumbled down affair, which looks as if it had been purposely constructed for the use of the English Sparrow. This old place is full of nooks and corners, gables and valleys, and blind windows with the slats broken out, and here the little rascals have snugly ensconced themselves, while all efforts on the part of the owner to dislodge them have been vain.

The following species have been added since the list was put into type.—(ED.)

Coccyzus erythrophthalmus. Black-billed Cuckoo.—On April 29, 1902, Rev. W. H. LaPrade shot a female and brought it to me.

Empidonax virescens. Green-crested Flycatcher.—Fairly common in spring; may breed.

Quiscalus quiscula aglæus. Florida Grackle.—Migratory in winter; appearing in small flocks.

Helminthophila rubricapilla. Nashville Warbler.—Fairly common in fall migrations and in immature plumage.

Olbiorchilus hiemalis. Winter Wren.—Winter resident; rare.

(Mr. Frank L. Burns has revised and ememended this list by the invitation of the author.—ED.)

ALL DAY WITH THE BIRDS.

LYNDS JONES.

MAY 16 AT OBERLIN, OHIO.

On account of the capriciousness of the weather two attempts were made to secure the largest horizon for the season. The first on May 14th by the writer alone, with three hours in the afternoon cut out, with a record of 102 species (just equalling our first "all day" record); the second on May 16th, Mr. W. L. Dawson and the writer, with a record of 109 species. The time occupied was from 3:30 a. m. to 8:00 p. m. The day began with a temperature of 44° and foggy near the ground, the fog lifting at 7 a. m., making work with the warblers which feed in the foliage of the tree-tops almost impossible. At 6:00 o'clock only 67 species had been recorded, as against 90 at the same hour last year.

The distance to Oak Point, on Lake Erie, was made a-wheel, enabling us to visit some especially favorable places on the way there and back, and to spend some time in the evening twilight where the owls live. The sequel seems to clearly show that the overland trip by trolley is wasted time.

Two surprises in the lake shore swamps awaited us. One was in the form of a company of shore birds on the mud-flats, which included three species never before taken so late in the season; the other our inability to start the Long-billed Marsh Wren and Sora from their reedy retreats. There were other disappointments, as there always are. While the list of species observed is smaller than the largest, we feel satisfied with the day's work. The season was not such as to hold the birds during their northward movement.

It will be remembered that the first "All Day" occurred on May 17, 1898, 102 species; the second on May 8, 1899, 112 species; the third on May 19, 1900, 100 species; the fourth on May 9, 1901, 109 species; the fifth on May 7, 1902, 113 species, and the sixth on May 16, 1903, 109 spe-

cies. While the dates are somewhat scattered they represent nearly the same level from the stand-point of weather and the progress of the migrations; it is pertinent, therefore, to draw a comparison between the several lists by showing what birds were recorded on all of the six occasions, and showing what ones were recorded fewer times. In the lists which follow those species marked thus * were recorded this year (1903).

SPECIES RECORDED ON EACH OF THE SIX "ALL DAYS".

Herring Gull.*
Virginia Rail.*
Spotted Sandpiper.*
Killdeer.*
Bob-white.*
Mourning Dove.*
Red-shouldered Hawk.
Am. Sparrow Hawk.
Belted Kingfisher.*
Hairy Woodpecker.*
Downy Woodpecker.*
Red-headed Woodpecker.*
Northern Flicker.*
Chimney Swift.*
Kingbird.*
Crested Flycatcher.*
Phœbe.*
Green-crested Flycatcher.*
Traill Flycatcher.*
Least Flycatcher.*
Prairie Horned Lark.*
Blue Jay.*
American Crow.*
Bobolink.*
Cowbird.*
Red-winged Blackbird.*
Meadowlark.*
Orchard Oriole.*
Baltimore Oriole.*
Bronzed Grackle.*
American Goldfinch.*
Vesper Sparrow.*
Grasshopper Sparrow.*
White-throated Sparrow.*
Chipping Sparrow.*
Field Sparrow.*
Song Sparrow.*
Swamp Sparrow.*
Towhee.*
Cardinal.*
Rose-breasted Grosbeak.*
Indigo Bunting.*
Scarlet Tanager.*
Purple Martin.*
Barn Swallow.*
Bank Swallow.*
Rough-winged Swallow.*
Migrant Shrike.*
Red-eyed Vireo.*
Warbling Vireo.*
Blue-winged Warbler.*
Nashville Warbler.*
Tennessee Warbler.*
Yellow Warbler.*
Magnolia Warbler.*
Cerulean Warbler.*
Oven-bird.*
Water-Thrush.*
Louisiana Water-Thrush.*
Maryland Yellow-throat.*
Yellow-breasted Chat.*
American Redstart.*
Catbird.*
Brown Thrasher.*
House Wren.*
White-breasted Nuthatch.*
Tufted Titmouse.*
Chickadee.*
Blue-gray Gnatcatcher.*
Wood Thrush.*
Wilson Thrush.*
Olive-backed Thrush.*
Robin.*
Bluebird.*

Total, 74.

SPECIES RECORDED FIVE TIMES OUT OF THE SIX.

Common Tern.*
Green Heron.*
Bartramian Sandpiper.*
Ruby-throated Hummingbird.
Wood Pewee.*
White-crowned Sparrow.
Cliff Swallow.*
Yellow-throated Vireo.*
Blue-headed Vireo.*
Chestnut-sided Warbler.*
Blackburnian Warbler.*
Black-throated Green Warbler.*
Canadian Warbler.*
Long-billed Marsh Wren.
Gray-cheeked Thrush.*

Total, 15.

SPECIES RECORDED FOUR TIMES OUT OF THE SIX.

American Bittern.*
Sora.
Solitary Sandpiper.*
Nighthawk.*
Tree Swallow.*
Black and White Warbler.
Black-throated Blue Warbler.*
Myrtle Warbler.*
American Pipit.

Total, 9.

SPECIES RECORDED THREE TIMES OUT OF THE SIX.

Great Blue Heron.
Cooper Hawk.*
Red-tailed Hawk.*
Broad-winged Hawk.
Bald Eagle.
Yellow-billed Cuckoo.*
Black-billed Cuckoo.*
Whip-poor-will.*
Lincoln Sparrow.
Bay-breasted Warbler.
Palm Warbler.
Mourning Warbler.
Wilson Warbler.
Winter Wren.
Red-breasted Nuthatch.
Ruby-crowned Kinglet.

Total, 16.

SPECIES RECORDED TWICE OUT OF THE SIX.

Pied-billed Grebe.
American Woodcock.
Sharp-shinned Hawk.
Barred Owl.*
Red-bellied Woodpecker.*
Rusty Blackbird.
Golden-winged Warbler.
Orange-crowned Warbler.
Brown Creeper.

Total, 9.

SPECIES RECORDED BUT ONCE OUT OF THE SIX.

Bonaparte Gull.
Wood Duck.
Am. Scaup Duck.
Least Bittern.
Florida Gallinule.*
American Coot.
Wilson Snipe.*
Least Sandpiper.*
Semipalmated Sandpiper.*
Greater Yellow-legs.
Yellow-legs.*
Semipalmated Plover.*
Turnstone.
Turkey Vulture.*
Pigeon Hawk.
American Osprey.
Screech Owl.
Pine Siskin.
Brewster Warbler.*
Black-poll Warbler.*
Connecticut Warbler.
Hooded Warbler.
Carolina Wren.*
Short-billed Marsh Wren.
Golden-crowned Kinglet.

Total, 25. Grand Total, 148.

MAY 10. AT CADIZ, OHIO.

HARRY B. M'CONNELL.

May 10.—In the vicinity of Cadiz from 4 o'clock to 9. Two miles east of town from 10 till 12. In the region of Piedmont, 14 miles southwest of Cadiz, in the late afternoon. Temperature 60° at 4 a. m., 78° at 9 a. m.; clear. Walked 11 miles, rode on bicycle 6 miles, drove 14 miles.

Green Heron.
Woodcock.
Wilson's Snipe.
Spotted Sandpiper.
Killdeer.
Bob-white.
Ruffed Grouse.
Mourning Dove.
Turkey Vulture.
Cooper's Hawk.
Red-tailed Hawk.
Belted Kingfisher.
Downy Woodpecker.
Red-headed Woodpecker.
Red-bellied Woodpecker.
Flicker.
Yellow-bellied Sapsucker.
Whip-poor-will.
Nighthawk.
Chimney Swift.
Kingbird.
Crested Flycatcher.
Phœbe.
Wood Pewee.
Prairie Horned Lark.
Rose-breasted Grosbeak.
Blue Jay.
Crow.
Bobolink.
Meadowlark.
Orchard Oriole.
Bronzed Grackle.
Cowbird.
Red-winged Blackbird.
Goldfinch.
Cedarbird.
Vesper Sparrow.
Field Sparrow.
Grasshopper Sparrow.
White-throated Sparrow.
Chipping Sparrow.
Song Sparrow.
Towhee.
Cardinal.
Indigo Bunting.
Scarlet Tanager.
Purple Martin.
Barn Swallow.
Bank Swallow.
Tree Swallow.
Red-eyed Vireo.
Warbling Vireo.
Yellow-throated Vireo.
Nashville Warbler.
Yellow Warbler.
Cerulean Warbler.
Kentucky Warbler.
Blackburnian Warbler.
Canadian Warbler.
Oven-bird.
Water-Thrush.
Maryland Yellow-throat
Yellow-breasted Chat.
Catbird.
Brown Thrasher.
Carolina Wren.
Tufted Titmouse.
White-breasted Nuthatch.
Carolina Chickadee.
Chickadee.
Blue-gray Gnatcatcher.
Wood Thrush.
Wilson's Thursh.
Robin.
Bluebird.

Unidentified, 2; Total, 78 species.

We drove to Piedmont in the hope of seeing the Golden Eagle and Logcock. The former is frequently seen in that region, and three have recently been trapped alive. The

farmers in that section are complaining that the eagle is taking their lambs.

MAY 17. AT M'ZENA, OHIO.

C. L. METCALF.

McZena, Ohio.—May 17; from 4:30 till 7:50 a. m. and from 12:30 till 5:20 p. m.; clear; light wind, from the north in the morning, south in the afternoon; average temperature about 70°.

Spotted Sandpiper.
Killdeer.
Bob-white.
Ruffed Grouse.
Mourning Dove.
Red-tailed Hawk.
Sparrow Hawk.
Yellow-billed Cuckoo.
Belted Kingfisher.
Hairy Woodpecker.
Downy Woodpecker.
Red-headed Woodpecker.
Red-bellied Woodpecker.
Flicker.
Chimney Swift.
Ruby-throated Hummingbird.
Kingbird.
Crested Flycatcher.
Phœbe.
Wood Pewee.
Prairie Horned Lark.
Blue Jay.
Crow
Bobolink.
Cowbird.
Red-winged Blackbird.
Meadowlark
Orchard Oriole.
Baltimore Oriole.
Bronzed Grackle.
Goldfinch.
Vesper Sparrow.
Grasshopper Sparrow.
White-crowned Sparrow.
Field Sparrow.
Song Sparrow.
Towhee.
Cardinal.
Rose-breasted Grosbeak.
Indigo Bunting.
Scarlet Tanager.
Purple Martin.
Barn Swallow.
Red-eyed Vireo.
Warbling Vireo.
Yellow-throated Vireo.
Yellow Warbler.
Black-poll Warbler.
Blackburnian Warbler.
Black-throated Green Warbler.
Oven-bird.
Maryland Yellow-throat.
Yellow-breasted Chat.
Catbird.
Brown Thrasher.
White-breasted Nuthatch.
Tufted-Titmouse.
Blue-gray Gnatcatcher.
Wood Thrush.
Olive-backed Thrush.
Hermit Thrush.
Robin.
Bluebird.

Total, 63 species.

SOME BIRDS OF FLORIDA.

BY REV. J. M. KECK.

The following birds were observed at, or near, Fruitland Park, Lake county, Florida, from Dec. 20, 1902, to April 20, 1903. The locality is near the geographical center of the state. The region is high pine-woods land and is dotted with small lakes. A few visits were made to the larger lakes and marshes four to six miles away. The region appears to be free from English Sparrows, Common Crows, Florida Crows, and ducks, save one species.

1. **Pied-billed Grebe.** Common resident on all lakes.
2. **Anhinga.** Common resident on the larger lakes. Visits the smaller lakes daily in winter. Quite tame.
3. **Florida Duck.** Rare resident on the larger lakes.
4. **Ward's Heron.** Resident but not common.
5. **American Egret.** Almost extinct resident.
6. **Louisiana Heron.** Very rare resident.
7. **Little Blue Heron.** Common resident by all lakes.
8. **Little Green Heron.** Not very common resident.
9. **Black-crowned Night Heron.** Common resident.
10. **Sandhill Crane.** Very common resident.
11. **Limpkin.** One seen by Lake Harris, January 22.
12. **Florida Gallinule.** Abundant resident in marshes.
13. **American Coot.** Abundant on larger lakes in winter.
14. **American Woodcock.** One seen February 22.
15. **Wilson's Snipe.** Common transient visitor from February 10 to April 10. Their "bleating" can be heard almost every night during their season.
16. **Spotted Sandpiper.** Resident but not common.
17. **Hudsonian Curlew.** One seen March 3.
18. **Killdeer.** Common in winter. A few remain in spring to nest.
19. **Florida Bob-white.** Abundant resident. Smaller and darker than the northern variety.
20. **Mourning Dove.** Abundant in winter in flocks of 30 to 50. Shot as game. In spring some remain to breed. Very wild.
21. **Ground Dove.** Abundant resident and quite tame.
22. **Turkey Vulture.** Common and very tame.
23. **Black Vulture.** Equally common and more abundant in towns.
24. **Marsh Hawk.** Not common resident.
25. **Florida Red-shouldered Hawk.** Rare resident.
26. **Bald Eagle.** A rare visitor from the coast.

27. **Pigeon Hawk.** One present from February 14 to 17.

28. **Sparrow Hawk.** Abundant resident and very tame. One roosts under our porch roof and nightly ejects pellets consisting entirely of sand and the indigestible parts of insects.

29. **American Osprey.** Common resident. Fishes on all lakes.

30. **Florida Barred Owl.** Rather common resident.

31 **Florida Screech Owl.** Not common resident.

32. **Great Horned Owl.** Rare resident.

33. **Yellow-billed Cuckoo.** One heard April 18.

34. **Kingfisher.** Common winter visitor until February 15.

35. **Southern Hairy Woodpecker.** Rather common resident.

37. **Red-headed Woodpecker.** Common summer resident after March 10. Probably attracted by mulberries.

38. **Red-bellied Woodpecker.** Abundant resident. Tame and noisy.

39. **Yellow-shafted Flicker.** Common resident. Tame.

40. **Chuck-will's-widow.** Common summer resident after March 20.

41. **Whip-poor-will.** One or two heard March 22.

42. **Florida Nighthawk.** Common after April 11.

43. **Chimney Swift.** Transient visitor from April 11 to 15.

44. **Ruby-throated Hummingbird.** Common summer visitor after March 20.

45. **Kingbird.** Abundant summer resident after April 5.

46. **Crested Flycatcher.** Abundant winter visitor. Last seen March 10.

47. **Phœbe.** Abundant winter visitor. Last seen March 10.

48. **Florida Blue Jay.** Very common resident. Notes and habits like those of the Blue Jay of the North.

49. **Florida Jay.** Very rare resident. Common farther South. Very noisy.

50. **Fish Crow.** Not common in winter. Abundant in spring. Breeds. Noisy.

51. **Florida Red-wing.** Common resident about marshes. Abundant in certain localities.

52. **Meadowlark.** Common resident. Smaller and darker colored than Ohio birds.

53. **Florida Grackle.** Abundant resident in certain localities.

54. **Boat-tailed Grackle.** Abundant resident about marshes. Very tame and noisy.

55. **American Goldfinch.** Heard occasionally in January.

56. **Vesper Sparrow.** Common winter visitor until February 20.

57. **Savanna Sparrow.** Rare winter visitor.

58. **Grasshopper Sparrow.** Rather common winter visitor. Still here April 20.

59. **Chipping Sparrow.** Common winter visitor until February 20. Sometimes seen in flocks.

60. **Pine-woods Sparrow.** Rather common resident.

61. **Bachman's Sparrow.** Rare winter visitor until March 2.

62. **Towhee.** Common winter visitor until April 15. Found in metto thickets.

63. **Florida Towhee,** erroneously called White-eyed Towhee. It does not have a white eye. Common resident.

64. **Florida Cardinal.** Abundant resident and very tame. Comes to our windows every day.

65. **Purple Martin.** Common summer resident after February 15. Notes very sweet and jolly.

66. **Tree Swallow.** Common winter visitor until April 10. Large flocks dip into the lake at sunset.

67. **Loggerhead Shrike.** Common resident. Began nest building February 25.

68. **Blue-headed Vireo.** Rare winter visitor. Last seen April 10. Visits garden shrubbery.

69. **Orange-crowned Warbler.** Not common winter visitor. Last seen February 28.

70. **Parula Warbler.** Rather rare winter visitor. Not seen after April 10. Found on long-leaved pine.

71. **Yellow-throated Warbler.** Rare resident.

72. **Pine Warbler.** Rather common resident.

73. **Palm Warbler.** Abundant winter visitor. Appears in large flocks. Last seen April 6.

74. **Yellow Palm Warbler.** Seen occasionally in winter.

75. **Water-Thrush.** One observed March 2.

76. **Florida Yellow-throat.** Common resident in "hummocks." Persistent singer.

77. **Mockingbird.** Abundant resident. Very tame. Songs began February 5. Frequently sings at night.

78. **Catbird.** Rare winter visitor. Not observed after March 5. Feeds on holly berries.

79. **Brown Thrasher.** Rather rare resident.

80. **Carolina Wren.** Rare resident. Heard in cypress swamps.

81. **Short-billed Marsh Wren.** Resident in saw-grass marshes.

82. **House Wren.** Common resident. Heard in the scrub palmetto thickets, also about dwellings.

83. **Florida Nuthatch.** Not common resident.

84. **Tufted Titmouse.** Common resident.

85. **Carolina Chickadee.** Rather rare resident.

86. **Ruby-crowned Kinglet.** Winter visitor. Disappeared about February 10.

87. **Blue-gray Gnatcatcher.** Common winter visitor. Sometimes sings a very low, sweet, varied song. Not seen after April 5. Often with Palm Warblers.

88. **Wood Thrush.** One seen March 5.

89. **Hermit Thrush.** One observed March 7.

90. **American Robin.** Not common winter visitor from January 1 to March 8. Sometimes seen in flocks.

91. **Bluebird.** Rare winter visitor from January 15 to February 20.

Addenda. At Melbourne, Florida, on the Indian River, March 10, the following additional species were observed:

1. **Brown Pelican.** Common. Thirty miles below Melbourne these birds breed by the thousand on an island.
2. **Lesser Scaup Duck.** Very abundant.
3. **Ruddy Duck.** Not common.

At St. Augustine, March 17, the following were added to the list:

1. **Herring Gull.** Common.
2. **Bonaparte's Gull.** Common.

Fruitland Park, Florida.

BREWSTER WARBLER (*Helminthophila leucobronchialis*) IN OHIO.

LYNDS JONES.

On May 23rd, 1902, an individual of this puzzling form was seen and closely studied at Oberlin, but was not secured. Its song was half Blue-wing and half Golden-wing. The back could not be seen satisfactorily, but the underparts were white tinted with black at the throat, the breast strongly tinted with yellow, and the wing-bands clear yellow. The black line on the side of the head was not wider than in typical Blue-wing.

During the present season at least four individuals have been seen and closely studied, two of which have been preserved. The songs range from almost typical Blue-wing to about three-quarters Golden-wing, apparently without any reference to the color phase of the individual. These individuals show no trace of black on the throat and very little

yellow on the underparts. The black eye stripe is narrow. Of the two specimens collected one has no yellow on the back, except the yellowish white wing bands, and just a trace of yellow on the breast, the other one has evident yellow in the middle of the back and on the breast.

All four of these birds were singing males with no apparent family ties. If they mate and remain in the region to nest a report will be made later.

In habits of feeding and singing, these four individuals resemble the Blue-wing more than the Golden-wing, but are found in the same parts of the woods. It may be significant that they have been found only in the two woods in which the Golden-wing was found last season. While no careful nor systematic search was made for nesting Golden-wings, none were found in the course of regular class study, while the Blue-wings were much in evidence in the same woods.

The presence of one individual of this rare hybrid would not excite any great wonder, since it is likely to occur wherever the Golden-wing may breed, but the presence of four, and probably more, individuals seems to demand some explanation. The only light I am able to throw upon it is that in the woods where three of the four were found we last year found what we then supposed to be a pair of typical Golden-wings nesting, but as no nest could be found, and the pair soon deserted the region, they were supposed to have gone elsewhere. In the light of the present experiences I am strongly inclined to the opinion that the female of this pair was of the Brewster form, since she lacked the black throat and was strongly tinted with yellow above and below. It may well be that this pair succeeded in raising a brood in this woods, and that the birds which returned are their offspring; else why so many?

THE WILSON BULLETIN.

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Official Organ of the Wilson Ornithological Club.

Edited by LYNDS JONES.

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EDITORIAL.

The editor is pleased to announce that the next Bulletin will contain a list of the birds of Mount Mansfield, Lamoille county, Vermont, by Mrs. Elizabeth B. Davenport. Local lists are always of peculiar value and interest in these days of widespread study of the birds. They furnish a basis for study by those who are beginning to learn the birds, and enable them to make more accurate identifications in the field. They are also a great aid in the final compilation of a state list.

The next Bulletin will also contain an illustrated article on an unusual nesting place of the Great Horned Owl. The time is not far distant when this bird will be extinct in the eastern parts of the country, because he is so inordinately fond of poultry and other domestic animals which are raised for profit. He is too conservative to change his habits to save his neck, and must pay the penalty.

A useful piece of summer work would be the careful study of the bird fauna of any region in which you find yourself. It should be carefully borne in mind that some birds return from more northern breeding places in July and August, and any such species should not be included among the breeding birds. Therefore, keep a record of all birds with the dates for such records. Far too little attention has been given to the summer birds in most of the middle parts of

our country. It is really distressing to note the general lack of positive information regarding the nesting of several of our warblers. A great deal of valuable work may be done along these lines.

Valuable work may also be done in determining the latest nesting of many of our more common summer birds. We are usually alert to note and record the first nesting, but the summer finds us too inert to record if we notice, the last nesting. It is probably true that the southward movement of any individual among our smaller land birds is dependent in large measure upon the nesting. If the last brood is reared late in July the parents could not begin the southward movement until after the young were able to travel, or at least care for themselves, while other individuals which had completed their nesting much earlier would have already gone south. This is a much neglected influence upon the southward movements of the birds which any one may take up for study.

We are pleased to note that the wholesale milliners and the Audubon Societies have agreed upon a truce which ensures the protection of our native birds from the millinery trade. We hope it will result in proving that feathers are not a necessary part of woman's costume. If it should result in a complete revolution in the fashion of feminine headwear there would not be many bitter tears of disappointment shed!

In the middle west the migration season which has just closed has been unusual in several respects. Up to the first of April there was an unusually early movement of several species, induced by the unusually warm March weather. With the wet and cold of April nearly all movement was checked, and when the warm air finally called for migration in early May the nights were cool and clear, enabling the night migrants to pass over without stopping. Instead of swarms of warblers among the nearly bare trees one must search for any at all. At Oberlin the individuals were fewer than during any of the ten years of my experience here. But while the weather was unfavorable for large numbers of individuals it seemed to be favorable for some unusual occurrences, as a note on another page indicates. Ideal weather for crowded migrations would probably be a period of some two weeks of wet weather in the South, and cold nights with clouds or fogs in the North. The birds would then begin their northward movement in the South, fly up to the cloud or fog bank and be stopped. On the following day they would be delightfully numerous all along the border of the cloud bank and beneath it for some distance. On such a day the largest list should be made.

We are in receipt of a paper entitled "An Act to Incorporate the Audubon Society of North Carolina and to Provide for the Preservation of the Song and Game Birds of the State," which means that the birds of that state are to be looked after carefully and intelligently. It is always a pleasure to note the rapid advance which protective measures are making over the entire country. Not the least encouraging is the evident intelligent interest manifested by large numbers of persons where few or none seemed to care anything about the birds a few years ago.

A new magazine, "The Atlantic Slope Naturalist," calls for our attention. It is edited and published by Dr. W. E. Rotzell, at Narberth, Penn.; subscription price 30 cents a year. "The object of this little journal is to afford those interested in nature studies a medium through which observations may be recorded, opinions may be expressed, questions may be asked and specimens announced for exchange." It is devoted to natural history in general, and therefore appeals to a large constituency. The first number is full of interesting matter, which promises well for the future of the journal. Dr. Rotzell will make an able editor.

The reorganized Michigan Ornithological Club, in the first number of the fourth volume of its Bulletin, has proved that it is a force to be reckoned with in that state. The immediate work outlined for members of the club is of the right character to produce results. It goes without saying that the members mean business, and that Michigan ornithology will make rapid strides in the next few years. Geographically considered there is hardly a state in the Union in which a larger list of birds might be expected to occur. We look for some interesting things from this rejuvenated club.

GENERAL NOTES.

NOTES FROM RHINEBECK, DUTCHESS COUNTY, N. Y.

Wood Duck (Aix sponsa).—A pair nested in 1899 in a large hole in an apple-tree, about six feet up. The tree was about ten yards from an inhabited house, and not far from a creek. The female, as she sat on her thirteen eggs, was so tame that she could be touched before flying off. When suddenly approached she would utter a hissing sound, resembling that of a swan. She and all her eggs were stolen. In 1901 a pair was shot near the same spot.

Bob-white (Colinus virginianus).—A nest of fourteen Bob-white's eggs was uncovered by a mowing machine on June 25, 1902, and after being all night in the rain, thirteen were put under a hen. One was broken, but the twelve others all hatched, and the chicks were kept in a shady walk. All disappeared finally, except two, a male and a female. They are now quite tame and spend a large part of their time in the chicken-yard. The male is quite pugnacious, and does not hesitate to attack a rooster much larger than himself.

American Bald Eagle (Haliæetus leucocephalus).—A young Bald Eagle, in black plumage, was seen flying over my chicken-yard in 1898, and was at first thought to be a buzzard. The next day a neighbor winged it and put it in a cage. When the wound healed it was liberated, as it was rightly thought to be too rare a bird to kill. I did not hear that it stole a single chicken while in the neighborhood. On May 11th, 1901, a bird, which I feel justified in calling an eagle on account of its great size and white head, flapped rapidly over my chicken yard and the surrounding fields, apparently with a fish in its claws. It was chased away by a Red-shouldered Hawk and a couple of crows.

Barred Owl (Syrnium nebulosum).—In May, 1902, a workman, on entering an old hay loft over a much-used cow stable, discovered a Barred Owl and three young ones in a nest in the hay. He brutally killed the mother with a pitchfork, and handed the young over to the care of my superintendent. One of them died, but the other two lived and flourished. One, which I supposed was a male, was much tamer than the other, although both came when called, even when no reward was offered. The male day and night kept up a peculiar hissing sound, with a rising inflection at the end, swaying his head from side to side in an absent manner. He thus drew the attention of other birds and was frequently mobbed. The other was silent and retiring. "Owly" is contemplating nesting in a swamp filled with large oaks. I have heard him hoot in broad daylight, which shows that by the loss of his mother his education was incomplete.

American Crow (Corvus americanus).—The crow is, in my opinion, a much greater pest than ever a hawk could presume to be. (Indeed I try to protect the latter and owls as well as I can.) In about three weeks, a family of crows disposed of nearly one hundred out of 150 chicks, although they were kept within a few yards of my house. I shot one, and hung it upon a tree close by, and thus kept off the rest for some time. Since I have been here—eight years—I have also seen crows carry off ducks, and chickens' eggs, and ears of corn.

Red-winged Blackbird (Agelaius phœniceus).—The male Red-wing arrives several weeks before the female. Like the Bluebird, he is

very loath to abandon his old home. A marsh where several nested was burned over last April without driving them away. Although there were two or three females nesting there at the same time, there was only one male—in fact, there never has been more than one.

American Goldfinch (Spinus tristis.)—In 1901 two rows of sunflower seeds were sown in my orchard. In consequence, that summer I found five inhabited Goldfinches' nests there, and several empty ones that had been used that season, while flocks of Goldfinches were to be seen everywhere. Last year no sunflowers were planted, and the result was that I found only one Goldfinch's nest; nor do I believe that there were any others in the neighborhood.

Warbling Vireo (Vireo gilvus).—On June 3rd, 1901, I was attracted to the nest of a Warbling Vireo by the singing of its owner, which was at that moment sitting on its eggs. I do not know of any other bird which sings while incubating.

Golden-winged Warbler (Helminthopila chrysoptera.)—Rhinebeck, N. Y., is one of the places which is graced with the presence of this beautiful little bird, which apparently is uncommon except in certain restricted localities. Every year it comes to two small wooded swamps on my place, during the first ten days in May, and remains till about the middle of August. I have only succeeded so far in finding one nest, which was on the ground and contained two young warblers and a young Cowbird. They were all ready to fly, so I could not try to photograph their parents, which were very shy, and would not lead me to the nest for a long time. The nest was built of grape-vine bark, and dead oak leaves, and lined with finer grass, all of a uniform dark brown.

M. S. CROSBY.

MOUNTAIN BLUEBIRD INCREASING IN BOULDER, COLO.

It may interest the readers of the Bulletin to learn that the Mountain Bluebird (Sialia arctica) is increasing in numbers each year in this locality. This spring they are so numerous as to attract the attention of many people who had apparently never noticed them before, and during heavy snowstorms from March 12 to March 23, they congregated in enormous flocks, dispersing as soon as the snow began to melt away after each storm. I believe the flocking was due partly to the fact that the storms drove many birds from the foothills, partly to the fact that unusually deep snow in the mountains prevented the birds from entering as early as usual, but chiefly to the fact that they were forced to favored localities for food during the storms. Certain large trees were filled with the birds, which seemed to be busily feeding among the burst-

ing buds, and large numbers gathered about the small hummocks in swampy places, where the presence of open water seemed to cause the snow to melt as rapidly as it fell, leaving the hummocks bare. JUNIUS HENDERSON.

Unusual Birds at Oberlin, O.—During the unusually tardy migration season just closed there have been several notable occurrences at Oberlin. It is not easy to account for these, since some of them are of birds of more southern distribution. Possibly the lateness of the migrations resulted in an unusually strong current of migration when it did begin, and that current carried these southern birds with it north of their usual range.

Semipalmated Sandpiper (Ereunetes pusillus).—May 16. Not before noted in spring.

Semipalmated Plover (Ægialitis semipalmata).—May 14, 16, 19. Seldom seen in spring.

Sanderling (Calidris arenaria).—May 19. Generally not present in spring.

Prairie Warbler (Dendroica discolor).—May 14. Only one other county record.

Hooded Warbler (Sylvania mitrata).—Only one other county record.

Kentucky Warbler (Geothlypis formosa).—May 12. The first specimen captured in the county. There have been three other reports of occurrence, but no other captures.

Brewster Warbler (Helminthophila leucobronchialis).—See article on another page.

There were some unusual occurrences earlier in the season.

Old-squaw (Harelda hyemalis).—March 11 and 12. Oberlin water-works reservoir. A male and female in full breeding plumage.

Canvas-back (Aythya vallisneria).—March 13 to 18. A flock of four males and one female were present for six successive days on the water-works reservoir, and apparently spent the night as well as the day on the water.

Loon (Gavia imber.)—April 17 to 22. A male in full breeding plumage occupied the Oberlin water works reservoir for six successive days. For three days he practiced trying to rise high enough to clear the dwelling houses which nearly surrounded him, loudly calling after each failure. He finally cleared the dwellings, and was last seen heading for lake Erie. LYNDS JONES.

PUBLICATIONS RECEIVED.

Osteology of the Steganopodes. By R. W. Shufeldt, M.D. (Extracted from the Memoirs of the Carnegie Museum, Pittsburg, Pa., Vol. I. Plates XXI-XXX. Pages 109-223.)

After a careful treatment of the genera and species comprising this group, Dr. Shufeldt concludes that the six families should be grouped under three superfamilies as follows: To the Pelecanoidea should belong the families Pelecanidæ, Phalacrocoracidæ, Anhingidæ and Sulidæ. The superfamily Phæthontoidea comprises only the family Phæthontidæ and the superfamily Fregatoidea family Fregatidæ thus strongly emphasizing the structural differences between these two small groups and the other four families. It is a piece of work which commands the respect and attention of all. L. J.

Proceedings of the Nebraska Ornithologists' Union at its Third Annual Meeting, Lincoln, Neb., February 1, 1902.

This is a notable addition to Nebraska Ornithology. About thirty pages are devoted to a profusely illustrated paper upon the Progenitors of Birds, by the President, Edwin H. Barbour. Shorter papers follow treating of various subjects of a general nature, and these are followed by several papers with illustrations treating the reader to a glimpse of the bird life of Nebraska at all seasons, by various members. The paper deserves a much more careful review than it is possible to give it here. It affords a clear illustration of the life, vigor and talent possessed by this body of working ornithologists. Every state should have such an organization. L. J.

Amateur Sportsman, The Vol. XXVIII, No. 6, Vol. XXIX, No. 1.
American Ornithology, Vol. III, Nos. 3, 4, 5.
Animal Ecology of Cold Spring Sand Spit, by C. B. Davenport.
Atlanta Slope Naturalist, The, Vol. 1, Nos. 1, 2.
Bulletin of the Natural History Society of New Brunswick, No. XXI.
Bird-Lore, Vol. V, Nos. 2, 3.
Heredity of Sex, The, by W. E. Chase.
Journal of Applied Microscopy, Vol. VI, Nos. 2, 3, 4.
Maine Sportsman, Vol. X, Nos. 115, 116, 117.
Mirror, The, Vol. II, Series 3, No. 8.
Ohio Naturalist, The, Vol. III, Nos. 3, 4, 5, 6.
Plant World, The, Vol. III, Nos. 11, 12.

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BIRDS OBSERVED ON MT. MANSFIELD AND THE WEST END OF STOWE VALLEY AT THE BASE OF THE MOUNTAIN, IN THE SUMMER OF 1902.

BY MRS. ELIZABETH B. DAVENPORT.

In the October Auk, 1902, appeared Mr. Arthur H. Howell's "Preliminary List of Summer Birds of Mt. Mansfield," the first published article treating exclusively of the birds of that region. Incidentally Mr. Howell summarizes previously published Avi-faunal lists to date, also some of the literature upon the Flora of the region.

His story covered June 14-24, 1900, June 23 to July 2, 1902, and he found some interesting differences in bird distribution in these two years, his records differing also from those of Mr. Bradford Torrey made in 1885. The face of this territory is undergoing changes wrought by the lumbering interests, which are likely to increase in the near future, and it seems desirable that careful study be given the region, and note made of the bird life.

Mr. Howell offers his "List" chiefly as "a contribution to our knowledge of the breeding range of Canadian Species," and finds its "faunal relationships almost pure Canadian," "even the few Alleghanian species found in the valley being extremely rare."

The bulk of the mountain lies nearly north and south, sweeping up grandly from the valley on the western side, its base both here and on the east defining far-reaching curves, whose steep sides are covered with forests on their lower slopes, and whose broken rugged cliffs lift themeslves by sharp ascents to the great crest of the mountain.

Approaching from the Stowe side the ascent from the valley begins at the foot of a spur thrown out toward the east, the carriage road winding along its sides, and crossing to the main ridge as the summit is neared. Here for the first time the whole sweep of the mountain-top breaks on the view, the fleeting outline crowned by the majesty of the Chin. A mile and a half of wind-swept summit stretches away to the north, sometimes only a narrowing mass of weather-worn rock, sometimes widening out, and making boggy hollows which shelter a few stunted trees, or again giant masses of broken, splintered rock thrown together in great confusion, and giving but perilous foothold as one nears the great valley and gorges where snowy clouds often drift or linger, and out of which other mountain summits rise like somber islands, or maybe glow with splendid color reflected from a gorgeous sky at sunset.

Below the forest proper the spur widens out into a plateau, and at its base unite the two streams which drain the mountain sides, the North Branch coming down through Smuggler's Notch, having its birth in the pure spring which bursts from the heart of Sterling Mountain, cold, swift and forceful, a brook from the hour its waters first meet the light of day.

The forest is mainly red spruce *(Pica rubra)*, balsam fir *(Abeis balsamea)*, hemlock *(Lsuga canadensis)*, paper birch *(Beluta paprifira)*, yellow birch *(Beluta luten)*, beech *(fagus americana)*, and sugar maple *(Acer barbatun)*.

Where the virgin forest has been removed the undergrowth is very dense.

My stay was from June 6 to July 31, with the exception of a few days early in July (2-5), when I joined the B. H. B. Club at the midsummer meeting.

June 13-29, July 20-31 was spent at the summit.

June 6-13, July 5-20 I was stationed at Mr. Harlow's, and observations made on North Branch, South Branch and slopes of the mountain to the limit of timber.

The mile and a half of road from the foot of the plateau to Bingham's Falls at the entrance of the Notch, proved rich in species. For most of the way the road runs well above the wild, rocky bed of the swift-flowing brook, presenting along its borders the variety of scant open woodland, heavy forest, areas of recent growth, and areas of mountain-side where lumbermen have left trunks and tree-tops. Over the shorn forest, vines and bushes are rapidly growing, offering shelter and food to birds of the open woodland border.

Birds characteristic of both Alleghenian and Canadian faunæ seemed to intermingle here. Scarlet Tanagers and Wood Pewees were in close touch with Olive-backed Thrushes and White-throated Sparrows, and the Winter Wren slipped mouse-like among the prostrate trees.

Some puzzling questions of distribution were presented. Below the Notch, Olive-backed Thrushes were confined to this Branch, as were White-throats and Juncos, while they were never found on the South Branch, just across the narrow plateau.

The Wilson and Hermit Thrushes were distributed on the South Branch only, and though the Hermits were in the forest at the base of the mountain and well up along the Notch road, they were always in the woods at the left of the road, the Mansfield side.

These and some other questions relative to distribution are reserved for further study before discussion.

The only birds listed not found along these Branches, the plateau or mountain to 3,000 feet altitude, are Bicknell Thrush and Black-poll Warbler, these two birds being confined exclusive to the mountain summit.

1. **Actitis macularia.** Spotted Sandpiper.—June 9. Through the season, North Branch and down the valley.

2. **Bonasa umbellus. (togata?)** Ruffed Grouse. Mr. Howell refers all the Grouse found in this region to the Canadian form. I could not determine this definitely. Heard frequently drumming about the base of the mountain. Met with young all through the season from June 13 to July 17, on the lower slopes of the mountain to the Half-way House.

3. Accipiter velox. Sharp-shinned Hawk.—Summit, June 15, occasionally till late in July.

4. **Accipiter atricapillius.** Goshawk.—All through the season.

about the cliffs rising from the Notch. Young well grown, second week in July. Mr. William Brewster thinks these must have been Duck Hawks. (Tails were long.)

5. **Coccyzus americana.** Yellow-billed Cuckoo.—Occasionally about approaches to the Notch road.

6. **Ceryle alcyon.** Kingfisher.—Frequently met along the Branch brooks.

7. **Dryobates villosus.** Hairy Woodpecker.—Well up the mountain road on the underhill side. Not numerous.

8. **Dryobates pubescens medianus.** Downy Woodpecker.—Frequent on mountain slopes and lower valleys.*

9. **Sphyrapicus varius.** Yellow-bellied Sapsucker.—Up the mountain road as far as the spring. In the maple woods at the base.

10. **Colaptes auratus luteus.** Northern Flicker.—Common about slopes and in the valleys. About the farm above Mr. Harlow's.

11. **Chætura pelagica.** Chimney Swift.—Common in the valley. Often seen flying over the Summit.

12. **Trochilus colubris.** Ruby-throated Hummingbird.—Frequent about base of mountain.

13. **Tyrannus tyrannus.** Kingbird.—Occasional in valley to base of mountain.

14. **Myiarchus crinitus.** Crested Flycatcher.—Common about Mr. Harlow's, especially at lower end of North Branch. Could be also seen at the mountain foot proper.

15. **Sayornis phœbe.** Phœbe.—About all farm buildings. Nesting at Mr. Harlow's.

16. **Contopus virens.** Wood Pewee.—Rare. Heard first at Mr. Harlow's; June 8, on the North Branch; July 17, at Half-way House; June 19, on Underhill trail.

17. **Empidonax flaviventris.** Yellow-bellied Flycatcher.—Two pairs located near the summit in swampy woods, June 17. Under observation at intervals till July 28. Also on Underhill trail, June 19.

18. **Empidonax traillii alnorum.** Alder Flycatcher.—Occasionally noted all the way to mountain's foot along the small brooks flowing through the bushy pastures.

19. **Empidonax minimus.** Least Flycatcher.—Common in the valley. Well up the mountain side on the Underhill trail, June 19.

20. **Otocoris alpestris praticola.** Prairie Horned Lark.—Mrs. Herbert E. Straw first reported these birds in the Stowe valley in 1898. Mr. Howell found them at the same point and reported some twenty-five or more in 1901. In 1902 these birds were observed about the same fields and hill, and on June 30 several were seen and heard

*A woodpecker not surely identified but resembling the Arctic forms in general apperance, working between two tree trunks, and seen in profile only outlined against sky. Notes unfamiliar. At Bingham's Falls, and once at base of mountain.

on the sloping meadows toward Morristown, some three miles from the point to which they seemed to have been previously confined.

21. **Cyanocitta cristata.** Blue Jay.—Not common. Heard usually in the valley. Sometimes well up the mountain road. Heard calls from summit July 28.

22. **Corvus americanus.** American Crow.—Common at base of mountain. Saw Swallows (Barn and Eave) chasing crows over the meadow, June 9. Crow flying low, carrying some object in bill which it finally let fall.

23. **Dolichonyx oryzivorus.** Bobolink.—Distributed through all the meadows to mountain foot. Singing as late as July 8. About the orchards July 29.

24 **Agelaius phœniceus.** Red-winged Blackbird.—A few seen in meadow below the Forks.

25. **Icterus galbula.** Baltimore Oriole.—Four pairs located between base of plateau and Stowe village, July 13. Old birds appeared with young in the orchard about Mr. Howell's, but none were nesting above the junction of the Branches below the house.

26. **Carpodacus purpureus.** Purple Finch.—Numerous about the foot of mountain and also at Mr. Howell's. In full song all the season. Feeding on dandelion seeds, June 17.

27. **Loxia curvirostra minor.** American Crossbill.—About the plateau all through the two months. In flocks and pairs. Often feeding on the ground, holding the head sidewise to pick up grass seed. Frequently eating seed of dandelion, holding seed with plume projecting from side of bill till detached, then plume dropped. June 16, well toward top of mountain. Occasionally flying about the base in June.

28. **Astragalinus tristis.** American Goldfinch.—Abundant in the valley to the forest at base of mountain.

29. **Spinus pinus.** Pine Siskin.—Frequently seen in flocks flying about the Nose.

30. **Poœcetes gramineus.** Vesper Sparrow.—Abundant in valley and upland meadows.

31. **Coturniculus sandwichensis savanna.** Savanna Sparrow.—Distributed along the plateau. A few pairs in meadows near Stowe.

32. **Zonotrichia albicollis.** White-throated Sparrow.—Along the North Branch. Not on the mountain till well toward the summit (Inn trough), then rapidly increasing in numbers. One of the most abundant birds on the mountain top where they were in full song till I came down, July 29. Not so many individuals singing in July. Sang from dawn till 10 P. M. June 23, earliest date observed feeding young on summit. Some birds showed individual phrasing of the song common to the species, which was maintained through the season.

33. **Spizella socialis.** Chipping Sparrow.—Abundant in the lower valley, but rare on the plateau.

34. **Spizella pusilla.** Field Sparrow.—This bird was searched

for diligently in the bushy pastures at the foot of the mountain. Neither heard nor seen till July 17, when a single one was found at the above place.

35. **Junco hyemalis.** Slate-colored Junco.—Ranging with the White-throats, but extending into the Notch. On the summit the White-throats were not found north of the rocky masses known as the "lips," but the Juncos were all along the ridge to the "Chin." Very familiar about the hotel, coming to the piazza for crumbs, and feeding their young all about the open space.

36. **Melospiza cinerea fasciata.** Song Sparrow.—Common on the plateau and valleys. The most abundant bird of that region.

37. **Zamelodia ludoviciana.** Rose-breasted Grosbeak.—Nesting on the plateau, along the North Branch and woods of lower mountain slopes. Heard and seen several times beyond the Half-way House, and once at the limit of the large yellow birches.

38. **Passerina cyanea.** Indiga Bunting.—Common on the plateau and Branches. Also seen at the mountain foot proper.

39. **Piranga erythromelas.** Scarlet Tanager.——At base of the mountain, the North Branch, and hill below Mr. H.'s house.

40. **Chelidon erythrogaster.** Barn Swallow.—Abundant in the valley. Nesting on the plateau, north edge of the mountain forest.

41. **Petrochelidon lunifrons.** Cliff Swallow.—Record as No. 40.

42. **Clivicola riparia.** Bank Swallow.—Common in suitable situations below the plateau.

43. **Ampelis cedrorum.** Cedar Waxwing.—First observed in valley June 9, which Mrs. Straw thought an early date. Later seen occasionally about the base of the mountain.

44. **Vireo olivaceus.** Red-eyed Vireo.—Abundant in maple woods at base of mountain. Common all about the lower slopes and valley, and heard almost to limit of timber.

45. **Vireo gilvus.** Warbling Vireo.—Rare in the lower valley and not heard at any other point.

46. **Vireo solitarius.**. Solitary Vireo.—Occasionally on the lower slopes. Always in the vicinity of hemlocks.

47. **Mniotilta varia.** Black and White Warbler.—Common on the lower slopes and about the plateau.

48. **Helminthopila rubricapilla.** Nashville Warbler.—On the North Branch, at foot of plateau, in the orchard opposite Mr. Howell's. Also again near the mountain summit, where this bird was still singing July 28. Less numerous than any other warbler.

49. **Compsothlypis americana usneæ.** Northern Parula Warbler.—Not abundant on the mountain proper, but found well up among the hemlocks. More numerous along the North Branch.

50. **Dendroica æstiva.** Yellow Warbler.—None found above foot of plateau. Not abundant.

51. **Dendroica cærulescens.** Black-throated Blue Warbler.—Very common about the Falls, the North Branch and lower slopes of mountain, ranging up through the deciduous woods in the open

spaces, and edges of clearings. Feeding young at foot of mountain, June 30.

52. **Dendroica coronata.** Myrtle Warbler.—As low down the mountain as the "S" bend. Very numerous about the summit. Often singing sitting on tips of firs and spruces. They had a pretty habit of scouring along the edges of roofs of the hotel and barn, and poising on wing to pick out spiders from under the eaves, the outspread wings and hovering motion showing their rich coloring to great advantage. Still in song there July 28.

53. **Dendroica maculosa.** Magnolia Warbler.—Occasional on the North Branch, but more often found in the pastures above the South Branch, and always among the young spruces and firs. A few noticed on the mountain road.

54. **Dendroica pensylvanica.** Chestnut-sided Warbler.—Common along the North Branch and shrubbery clearings of the mountain toward the base. First found feeding young, July 8. The sexes have different alarm notes. Verified for first time this year.

55. **Dendroica striata.** Black-poll Warbler.—Abundant among all the stunted spruces and firs from altitude of 3,000 feet to region about the summit. Never heard them much north of the hotel. The rhythmic beat of their notes never musical, but the impression of ebb and flow most agreeable. Feeding young, July 26.

56. **Dendroica blackburniæ.** Blackburnian Warbler.—Ranging with the hemlocks, but singing and feeding largely in the deciduous trees—a habit I have noticed about Brattleboro. Common along North Branch.

57. **Dendroica virens.** Black-throated Green Warbler.—Common along the North Branch. Well up the mountain. Found always among the hemlocks.

58. **Seiurus aurocapillus.** Oven-bird.—Abundant along North Branch and mountain road wherever open deciduous woods abound. Flight song June 11, then nightly till early in July. Feeding young July 11 (mountain road). July 6, male about Mr. Howell's orchard.

59. **Geothylpis philadelphia.** Mourning Warbler.—Heard but a few times at the foot of the mountain in the thickets and edge of woodland. Mr. Howell reports them in the Notch.

60. **Geothylpis trichas brachidactyla.** Northern Yellow-throat.—Abundant about streams at foot of plateau and North Branch.

61. **Sylvania canadensis.** Canadian Warbler.—Nesting along North Branch. Common where timber had been cut and bushes had grown up among the abundant tree-tops.

62. **Setophaga ruticilla.** Redstart.—In the second growth timber on Notch road almost to Bingham Falls. Also along the South Branch and road from valley to Mr. Harlow's. Not abundant. Young out of nest July 29.

63. **Galeoscoptes carolinensis.** Catbird.—Common in the valley. Observed almost to edge of mountain forest along the bushy streams in the pasture.

644. **Olbiorchilus hyemalis.** Winter Wren.—Of this bird Mr. H. reports: "Mr. Lorry writes me that he noted them several times during his visit in '85 on the upper part of the mountain. I was disappointed not to find them, but I am certain they were not there in '99-00, for although the bird might be overlooked the song is not likely to escape notice." This is a most interesting report, for 1902 found a different record, so that I give a full acount of the distribution as I found it. At Bingham Falls and further down the North Branch. Once both seen and heard at the junction of the Branches (July 20 for latter record); also in the Notch. Again about half-way up the mountain road. Four pairs about the summit. Heard on the underhill slopes and once at the Chin on the Notch slopes. As Mr. H. says, it would not be likely that this bird could be overlooked if present. From June 13 to 18 song heard about the Summit House from faintest dawn till after 9 P. M., and singing daily till July 28, but song not continuous after about June 20. I could never decide if the song sounded the more beautiful in the deep forest among the mossy tree-trunks about whose prostrate forms spinulose ferns clustered, and where water filtered and dripped and lay in tiny pools, or where the rich silvery notes greeted one in the closing hours of the day as the glowing tints of sunset faded from the sky and mountain tops, and purpling shadows folded in the magnificent rocky ramparts of the ridge.

65. **Sitta carolinensis.** White-breasted Nuthatch.—Not common, but well up the mountain ranging with the Chickadee.

66. **Sitta canadensis.** Red-breasted Nuthatch.—June 12 in maple wood at base of mountain, and twice on South Branch. Was surprised not to find this bird more generally distributed, and think an earlier exploration in the Notch would have changed my record.

67. **Parus atricapillus.** Chickadee.—Feeding young at base of mountain June 8. Well distributed on North Branch and hillside below the plateau. On mountain road among the hemlocks. Not abundant.

68. **Regulus satrapa.** Golden-crowned Kinglet.—But once, at foot of mountain.

Hylocichla mustelina. Wood Thrush.—Mr. H.'s record for this Thrush is, "I think there were two pairs nesting there in 1899," and "heard the song and alarm note several times in the damp maple woods at base." In 1900 could find no trace of them, nor have they been observed by Mrs. Stowe in the Stowe Valley, so they are probably irregular in their occurrence there. Early one morning I thought I identified the song in the direction of the maple woods, of which Mr. H. writes, but the distance was too great to hear a whole phrase. This was the only occasion when any note was heard which could be related to this species, though I searched and listened diligently.

69. **Hylocichla fuscescens.** Wilson Thrush.—Only on the South Branch and in growth of young maples approaching base of mount-

ain. Rather common. Young hatched June 11. A bird and nest of unusual interest found June 8. Nest in group of six young maple trees growing closely together. Broken sticks had lodged in the group, and large beech leaves made the foundation of the nest at about 18 inches from the ground. *The nest was of moss, thick walled, deeply cupped, well sunken in the bed of leaves. Lined with fine grass and fibers. I did not handle the eggs, but they looked like typical Wilson eggs. The bird was not typical Wilson. No warm tints anywhere. Back, wings, tail and rump just the color of the young maple bark. Throat matched the blanched beech leaves over which it was lifted. Breast creamy; also sides. Streaked on sides and on breast, streaks running to the bill, but leaving throat entirely clear. Throat, eye ring and lores white, with the lores strongly marked. Calls and alarm notes those of the Wilson, and neither song nor notes of any other Thrush heard in vicinity. Studied the bird at range of six feet, for three hours at a time, for three days. Four young safely hatched June 10.

70. Hylocichla aliciæ bicknellii. Bicknell Thrush.—Abundant on the whole mountain crest wherever the swampy ground supported a growth of dwarfed spruce or fir. Found as low on the mountain road as the turn which first brings the hotel in sight. In full song when I first reached the summit, June 13, singing from earliest dawn till 10 P. M., both about the house and on the underhill side of the ridge. After June 20 song diminished, but often heard as late as July 29. Young well grown July 22. Their thrush habit of singing in the tops of dead trees or on projecting dead branches gave one much opportunity to see them. Were shy of near approach till young were hatched, then came about house and barn from out their cover, feeding freely on the ground and in the barn-yard. Occasionally while incubating would be seen running a little ahead of us on the bald rocky ridges toward the Chin, feeding at the edges of the bogs, and slipping into the dense growth if too nearly approached. The birds showed variation in both color and size, but the spotting in perfect harmony with olive of the back. The calls and alarm notes resemble the other thrush notes, but are easily separable, the "when" being thinner than that of the Wilson. The "cluck" was a common note; also the notes resembling the Nighthawk, a call which is like no other Thrush unless it should be the Alice, with which I am not familiar. Mr. Howell gives the song "weé â weé â wee chi chi wee, whistled through closed teeth." I heard it mostly given weé â weé â we we, then the chi chi, the last thin and high, but with the vibrant quality of the Wilson without change of pitch, closing with wea wea. On these last two unaccented notes only an interlude between repetitions of the vibrant

*One of the Polytrichiums. Plants laid close together, as they grow, the root ends beautifully curved at the bottom and the capsules crowded together at the rim and overlapped by the blanched leaves of the beech.

notes. We sought diligently and perseveringly for the nest, but without success. The cover was so dense, the stiff, low-growing boughs so interlaced, that it was impossible to penetrate many feet from the road. We searched every available group, sometimes climbing over the tops of low-growing trees when no opening could be made. On June 22 the men were cutting trees to mend the road, and when they had penetrated a close growth, a pair of birds circled about them, showing great distress. Examination revealed a crushed nest and eggs in the felled tree. The season was not favorable for nest-hunting, almost every day in June being in whole or part rainy, and with high winds often making it impossible to keep one's footing in the open on the summit. We are trusting more favorable conditions and results another year.

71. **Hylocichla swainsonii.** Olive-backed Thrush.—Abundant on the North Branch and lower slopes, extending well up to the limits of timber, but decreasing then in numbers. One was located at point where the hotel is first sighted, the highest range found. This bird often sang within hearing of the house. Were found well up the mountain sides, both in Smuggles and Underhill Notches. Well-grown young, July 19, in both above-named places. It was impossible not to contrast the song of Bicknell and Olive-back, as both were heard together. The latter suggested the rich odor of the fragrant firs and the former their spiring tops. Found the Olive-backed more shy than Bicknell.

72. **Hylocichla guttata pallasii.** Hermit Thrush.—Well distributed along the road to the Notch proper, but only to left of this road. Also on the South Branch, but not common. Seemed to be confined to the woods south-east of the mountain base, through which flowed the South Branch. Mr. Lorrey says, "Singing freely about the summit in July." On July 23 I was on the ridge near the cavern when a Hermit broke into song just below me on the slope toward the Underhill, singing continuously for almost ten minutes, then again at short intervals. At no other time was this bird heard anywhere above the base, and had probably pushed up the sharp slope temporarily.

73. **Merula migratoria.** Robin.—Abundant at the mountain base. A pair located on the summit seemed much more shy than those commonly nesting about our houses.

74. **Sialia sialis.** Bluebird.—Several nesting about Mr. H.'s and to the base of mountain. Numbers came about the orchard, their soft notes and calls heard when the song season proper had passed.

A NEST OF THE WESTERN HORNED OWL (Bubo virginianus subarcticus.)

BY EDWARD R. WARREN.

In the early part of May, 1901, while in Paonia, Delta county, Colorado, I heard of a nest of the Western Horned Owl. On the 8th we drove out there to investigate, and found the nest site in a cliff or bluff of adobe clay facing the west. The nest was 18 or 20 feet above the base of the bluff and as far or farther below its top. As we approached the place the old bird flew away.

NESTING SITE OF WESTERN HORNED OWL—NEST IN THE CLEFT ABOVE THE MAN'S HEAD.

While there appeared no way to reach the nest from below, it was possible to scramble to the top of the bluff above the nest. Arrived at the top, a rope, a loose fence post and a conveniently placed prairie-dog hole furnished the desired combination. The first descent proved fruitless as far as the nest was concerned, but embarrassingly fruitful in the amount of "dobe" carried to the bottom of the cliff. The dry wall of dirt crumbled at the touch into dust as fine as flour, or rattled down in chunks at a vigorous blow.

The second descent was successful in locating the nest on a shelf about six feet wide and four feet deep, sloping slightly down toward the edge—rather insecure footing on that crumbling soil, but making the use of the camera possible.

There were two young in the nest. After a snap at them in the defensive attitude which they immediately assumed, backing up against the adobe wall, I attempted to move them into a better light, but one of them chose to flutter down from the protecting ledge. I followed and had him at my mercy. His picture shows how he felt about it, and how his evident temper impressed the camera. We left the young bird at the foot of the bluff, feeling certain that the parents would find it.

The next day we returned and carried the other youngster home in a bag, and made a pet of him. He seemed to thrive on shreds of tough old rooster, which he refused to help himself to. At first I placed it in his mouth, but in the end found that the most expeditous way was to take hold of the bird's head, force open his bill, and poke the food down his throat. As he could swallow pieces of the roostes's neck an inch long, his digestion must have been good.

The bird stood about twelve inches high. The body plumage appeared to be mostly down—soft, fluffy and thick—but the wing and tail feathers were about half out of their sheaths. Ordinarily the ear tufts projected about half an inch, but sometimes fully three-quarters of an inch. The feet and legs were thickly covered with a yelowish or light buffy down.

The whole of the body down was barred, below as well as above, like the adult plumage. The body was light yellowish brown, gray tipped. The wing coverts were brownish yellow, with very dark bars fully a quarter of an inch wide. The primaries, secondaries and tail feathers were as dark as the bars

YOUNG WESTERN HORNED OWLS.

of the coverts, with still darker bars. The feathers of the face were just beginning to show.

During my absence the owl grew normally, and finally escaped, only to return for more chicken, and was killed while indulging a cultivated appetite for chicken.

I visited the nesting site in April of the following year. An empty egg shell proved that the nest was occupied again. Returning on the 13th we found the post ready set. The old bird was on the nest when I started down, but soon flew away. In the nest were three downy young, with pin feathers just beginning to show in the largest bird. There were also three young Pinon Jays, a Pocket Gopher (Thomomys), and the hind quarters of a cotton-tail rabbit, all food for the young.

YOUNG WESTERN HORNED OWL.

The few shredded cedar-bark fibers could hardly be called a nest.

The down of the young birds was white. The smallest one (at the left in the picture) I judged to be about ten days old, since it was ten days since I had found the shell at the base of the bluff. No opportunity offered for a further study of this interesting family.

WINTER BIRDS OF CENTRAL PARK, NEW YORK CITY.

BY CHARLES H. ROGERS.

My own notes, which cover the past three seasons, have been supplemented by those of Mr. George E. Hix and Mr. R. E. Stackpole, to whom I owe grateful acknowledgements.

All numbers of individuals, unless otherwise stated, refer to that part of the park north, to 86th street on the west and the Museum of Art on the east and south to about 73rd street.

I. WINTER VISITORS, 15.

1. **Larus argentatus.** Herring Gull. 51.—All through the winter flocks sometimes numbering fifteen hundred birds, though usually less, visit the large Croton Reservoir, a few only occasionally visiting the small one. In other parts of the park they may be seen flying overhead singly and in small parties. Arrival: earliest, October 9; latest, November 6; average, October 27. Last seen: earliest, April 18; latest, May 5; average, April 27.

2. **Aythya americana.** Redhead. 146.—On January 1, 1903, I saw a male (with two females of the same species?) feeding together on the big reservoir, apart from the gulls.

3. **Dryobates pubescens medianus.** Downy Woodpecker. 349c.—One male and one female in 1900-1; the same in 1901-2; and in 1902-3, two males and two females. Arrival: earliest, August 23; latest, October 20; average, September 19. Last seen: earliest, April 13; latest, May 2; average, April 22.

4. **Carpodacus purpureus.** Purple Finch. 517.—I saw one male, February 3, 1903.

5. **Zonotrichia albicollis.** White-throated Sparrow. 558.—This, one of our commonest winter birds, was strangely less common last winter. In 1900-1 about seventy were present, and the next

winter a hundred, but last season the largest number seen in one hunt was sixteen. Arrival: earliest, September 28; latest, October 5; average, October 2. Last seen: earliest, May 20; latest, May 24; average, May 22.

6. **Spizella monticola.** Tree Sparrow. 559.—This Sparrow has been recorded on the following dates only: February 24, 1902, 2; February 26, 1902, 8; February 27, 1902, 3; February 20, 1903, 1.

7. **Junco hyemalis.** Junco. 567.—Very common migrant, uncommon in winter. Arrival: earliest, September 28; latest, October 6; average, October 3. Last seen: earliest. April 30; average, April 22.

8. **Passerella iliaca.** Fox Sparraw. 585.—1900-1 only, Fox Sparrows (4) spent the winter in the park. Late autumn migrants are sometimes seen early in December. Eight seen February 12, 1901.

9. **Thryothorus lubovicianus.** Carolina Wren. 718.—One each of this and the following species seen December 2, 1902. They had both been seen occasionally that autumn.

10. **Olbiorchilus hiemalis.** Winter Wren. 722.—See next above; also one seen December 30, 1900.

11. **Certhia familiaris fusca.** Brown Creeper. 726.—Regular but not common. 1900-1, 1; 1901-2, 3; 1902-3, 3. Arrival: earliest, October 1; latest, October 5; average, October 3. Last seen: earliest, April 18; latest, May 7; average, April 27.

12. **Sitta carolinensis,** White-breasted Nuthatch. 727.—Regularly every other year. In 1900-1 there were three; last winter only one. Arrival: 1900, September 29; 1902, October 8. Last seen: 1901, April 11; 1903, March 20.

13. **Parus atricapillus.** Chickadee. 735.—One spent the winter of 1900-1, also one seen November 4, 1902. No others seen the last two winters. Arrival: 1900, October 20. Last seen: 1901, April 10.

14. **Regulus satrapa.** Golden-crowned Kinglet. 748.—Some belated autumn migrants seen December 2, 1900; also I saw several on Christmans Day, 1901, and two paid us a visit from December 24, 1902, to January 5, 1903, inclusive.

15. **Hylocichla guttata pallasii.** Hermit Thrush. 759.—One spent the winter of 1901-2.

II. PERMANENT RESIDENTS, ?.

16. **Colaptes auratus luteus.** Northern Flicker. 412.—In 1900-1, I saw only two individuals, one each on January 6 and 15. Next season a female remained through the winter, but in 1902-3 I saw only one, February 13.

17. **Sturnus vulgaris.** Starling. 493.—In 1900-1 the largest number seen in one hunt was 65, the next winter only 25, and in 1902-3, over a hundred.

18. **Carduelis carduelis.** European Goldfinch.—1900-1, 6; 1901-2, 15; 1902-3, 6.

19. **Fringilla cælebs.** Chaffinch.—One male was present in 1902-3, and in the spring several Chaffinches were liberated.

20. **Melospiza cinerea melodia.** Song Sparrow. 581.—In 1900-1, two individuals, next season, five, and last winter, four.

21. **Cardinalis cardinalis.** Cardinal. 593.—In 1900-1, one male; 1901-2, two males and a female; and in 1902-3, two males and two females. During the mild weather about Lincoln's Birthday, 1903, a pair of Cardinals built a nest and laid one egg; both nest and egg were, of course, destroyed by the next snow.

22. **Merula migratoria.** American Robin. 761.—Three were present during each of the last three winters.

III. OCCASIONAL STRAGGLERS FROM THE COUNTRY.

23. **Buteo lineatus.** Red-shouldered Hawk. 339.—One was present for a week or two late in December, 1901, and early in January, 1902, before he was shot. A large hawk, species unidentified, was seen on February 10 and 17, 1901, and December 14, 1902.

24. **Falco sparverius.** American Sparrow Hawk. 360—I saw one in January, 1902, and a small hawk, probably of this species, January 2, 1903.

25. **Asio wilsonianus.** American Long-eared Owl. 366.—I saw one December 6, 1901.

26. **Megascops asio.** Screech Owl. 373.—I saw one December 28, 1902.

27. **Corvus americanus.** American Crow. 488.—One spent the winter of 1899-1900 and I saw one flying overhead February 16, 1901.

28. **Agelaius phœniceus.** Red-winged Blackbird. 498.—I saw a male December 7 1901.

29. **Sialia sialis.** Bluebird. 766.—I saw three December 15, 1901.

IV.

The following three winter birds have been seen in Central Park, but not in winter:

30. **Loxia cuvirostra minor.** American Crossbill. 521.—I saw a flock of about half a dozen, of which only one was an adult male, April 6, 1899.

31. **Acanthis linaria.** Redpoll. 528.—One female was seen Noveber 10, 1901.

32. **Lanius borealis.** Northern Shrike. 621.—I saw one on November 5, 1901.

V.

33. **Quiscalus quiscula.** Purple Grackle. 511.—An early spring migrant, seen February 28, 1903.

I would be glad to hear from any readers who can add to this list.

THE TERNS OF THE WEEPECKET ISLANDS, MASSACHUSETTS.

LYNDS JONES.

The preservation and gradual increase of the various Tern colonies along the Massachusetts coast is largely due to the interest and attention of Mr. George H. Mackay, who has kept us informed of the progress of the colonies at Penekese and Muskeget. Attention was called to a small colony of terns at the Weepecket Islands, in 1896, by Mr. Reginald Heber Howe, Jr., who reports the results of two visits to these islands on June 27 and 30, 1896, in the Auk for April, 1897, page 203. The results of Mr. Howe's study may be briefly summarized.

On the outer island about fifty birds were flying about, but only three nests, each containing two eggs, were found. These nests were placed upon the edge of the plateau, well hidden in the grass and poison ivy. "The Roseate Terns *(Sterna dougalli)* were apparently the only inhabitants of this island."

About he same number of terns were counted above the Middle island, and two nests were found on the beach and two on the edge of the plateau concealed beneath the scrubby poison ivy. The most of the birds here were Roseates, but there were a few Common Terns *(Sterna hirundo)*.

The population of Great Weepecket was studied on June 30. On the upland 25 nests were found, two empty, three with one egg, seven with two, twelve with three, and one with four, and one with a chick. On the beach eight nests were found, three with one egg, two with two, and three with three. Total, 34 nests.

"The nests on the uplands were in almost every case placed near or at the base of the scattered boulders, and on the beach on the sea weed. The colony consisted of perhaps 200 terns, the majority Roseates; but as the terns on the three islands all gathered over one when walking about the island, and others are off fishing, a correct estimate is impossible."

During nearly the whole of July and the first half of August the writer enjoyed unusual opportunities for studying the terns of these islands, and a comparison of conditions now with those of 1896 may prove interesting. The boats of the U. S.

Fish Commission and of the Marine Biological Laboratory were placed at my disposal, and it was due to the courtesy of these organizations that I was able to visit these islands on several different occasions for more or less extended study.

July 10, Mr. Irving A. Field, of the Fish Commission, accompanied me, when we made a pretty careful count of the nests on the three islands. On the outer small island we found 53 nests, the most of them among the weeds on the higher parts of the beach, concealed more or less. The top of this island was so densely covered with grass that but half a dozen nests could be accommodated along its edge. The lower beach nests were wholly exposed, and seemed to belong to the Common Tern, while the protected nests of the higher places appeared to belong to the Roseate Terns. It was possible to be absolutely accurate in identification only when there was a chick in the nest. Most of the birds hovering above the island and making hostile demonstrations were Roseates.

Middle Weepecket contained but 19 nests, one of them containing five eggs. The position of the nests, as well as the actions of the birds flying about indicated that the Roseates were in the majority here, but not so much so as on the outer island. There were more nests on the top among the scrub poison ivy and grass, and fewer on the beach exposed.

Great Weepecket was the home of the Common Tern to the almost exclusion of the Roseate. Not more than three nests of the Roseate were positively identified here. The upper level is so much more extensive than the beach levels, and so well grown with poinson ivy and bay berry bushes, and so broken up with hollows and elevations, that it was next to impossible to make an accurate count of the nests, or rather, to find all of them. 337 nests were found on the beach levels and 189 on the upper levels. Few or none were concealed by bushes or grass. One was found in an old wrecked dory, and two were placed partly under large boulders, but their situation could hardly have been for concealment. Very few of the eggs lay upon the bare ground. The nests were made of dry grasses, or dry sea weed, some being even elaborately made—for a tern.

One nest containing six eggs pretty clearly belonged to two birds; 13 contained five eggs; 22 contained four eggs. The

variation of the eggs in the nests containing but two eggs was so great that it was rarely possible to tell whether the nests of five belonged to two or to but one bird. That point can be settled only after careful study with the birds under close scrutuny.

Over 20 young birds unable to fly were counted on the three islands, but they were not considered in making an estimate of the population of the islands. 618 nests were actually found, thus arguing a population of 1,236 old birds. It is almost certain that many nests were overlooked, and it is not likely that many nests were counted twice. Probably an estimate of 1,500 old birds would be far within the facts. Thus it would appear that the rate of increase since 1896 has been enormous. On the two smaller islands the Roseates have more than held their own, while on the large island the Common Terns have come in hordes to possess it.

While there were more eggs than young birds and empty nests on the beach levels of the large island, on the upper levels the empty nests and young predominated. Apparently the first comers built their nests on the uplands by preference, while the later comers were either forced to occupy the lower levels or chose to do so. A little more care was manifest in the selection of a nesting site and in the construction of the nests on the uplands than on the beach. One might argue from this that the upland breeding birds were the more experienced, and therefore probably the older birds, but systematic study will be needed to prove it. The number of eggs in a nest also appeared to average larger on the uplands than on the beach levels.

It is common knowledge that tern eggs are protectively colored to simulate pebbles on the beach. Nests made of sea weed scattered among the pebbles were hard to see, because the color of the sea weed resembled the stones and the eggs. On the upper levels, however, and on the light colored sands among the grass, and where the nests were made of light colored fine grass, the eggs were easily detected by their bold blotches. They would have been less conspicuous little end up, but tradition forbade such an arrangement. Why tradition should permit the use of nonprotective nest material and not also furnish a degree of protection in either color or position

of the eggs is not clear. Perhaps she has not had time to complete her line of research yet.

It is also common knowledge that the downy young are protectively colored while on the beach, the mottling of the downs with tawny and dusky producing the effect of pebbles and small stones, and sea weed. It is interesting to notice that while the downy young of the Common Tern are thus mottled, the downy young of the Roseate Tern are longitudinally streaked from head to tail, the whole effect being decidedly darker. Incidentally, the legs and feet of the Roseate are dark, but of the Common almost orange, in the downy young. In both species the throat is dusky black, but the rest of the underparts, including the under side of the wings, are pure white. An explanation of this difference in pattern of coloration in the downy young of the two species is found in their habits and surroundings. I found young of the Roseate only on the uplands or among the weeds and grass of the upper beach slopes, always more or less concealed by the grass or weeds. Here the colors blend well with the surroundings. Many of the young of the Common Tern were on the beach and could be seen there with difficulty; but those which occupied the upland nests, or crouched among the grass and bushes were usually readily seen, because the mottled downs rather contrasted than harmonized with the surroundings. One is almost forced to the conclusion that the traditional nesting place of the Roseate is among grasses, while that of the Common is on the beach among pebbles and sea weed.

My work was a minute study of the nestling and juvenile plumages, but the results of that work can better await a more careful treatment than the limits of this paper make possible. It is sufficient to say that the body and inner wing markings of the juvenile Common Tern, on the dorsal side, give the effect of dark bars on a tawny or buffy ground, while the markings in the same regions of the Roseate give the effect of mottling in tawny and dark gray. As the two species crouched in the grass often side by side, it was easy to compare the relative protective effect of the two plumages which are really so much different in general effect. On the whole, it was a little more difficult to detect the young Common Tern than the young Roseate in the grass and bushes, but the young Roseate

was better concealed among the weeds with large leaves. Among the pebbles and stones the Common was the more readily seen. The underparts of the young Common were entirely pure white, but of the Roseate with a faint tint of cream or even rosy.

The Weepecket terns seemed to feed almost wholly in the vicinity of Woods Holl. They ranged from Quisset to the bathing beach or even all along the west shore of Penzance, Great and Little Harbor, and the region of Vineyard Sound bordering the harbors, and in Hadley Harbor. Some range farther, of course, but the birds feeding young appeared to content themselves with the region named.

Unlike the gulls, the terns do not swallow the food and then regurgitate for the young, but carry the fish in the beak directly to the young. After studying the feeding process at close range for some time, I became convinced that the old birds do not stuff the fish down the throat of the young, but only thrust its head into the mouth far enough for the throat muscles to grip it, when the young bird swallows for himself. The Sand Lance *(Ammodytes americanus)* was the chief fish food, probably because it is so soft and easily digested. A four-inch fish could not manage to get wholly inside a four-inch bird, so the tail was left sticking out for future consumption! Even with the young able to fly the fish's head rested in the primitive gizzard while the tail was scarcely more than concealed in the throat. Mr. Field induced one Muskeget young Common Tern to part with his dinner of two young Herrings and one Sand Lance. Usually but a single fish was found in the digestive tract of the young.

The downy young merely raised their heads and opened their mouths for food, when very hungry uttering a faint peep, but the young ones able to fly were made to dance for their dinner. With widely gapping mouth and wings held akimbo, they executed a surprisingly fine clog to their own piercing music! In one case a young bird called for lunch just 20 minutes after receiving a good sized fish. He was not fed, however, until half an hour after his last lunch. I have repeatedly seen the old birds swallow three and four Sand Lances in rapid succession. This colony of 1500 old birds and their 1500

young must consume great quantities of the Sand Lance, yet the supply does not seem to diminish.

There is no uniformity in the development of the instinct to assume protective attitudes. With some young there is no evidence of such an instinct while they remain in the nest, while with others there seems to be almost as soon as the shell is cast. All of the young from the beginning of the pin feathers gave evidence of the instinct well developed. Some young left the nest two days after hatching, some remained for four days. When partly feathered birds on the uplands were taken from their hiding places in the grass or bushes their tendency was to try to run away instead of hiding again when replaced on the ground. Those on the beach treated the same way would invariably take to the water if not prevented. Even the young upon which the pin feahers were barely showing frequently took to the water and swam readily. In hiding, the birds were content to emulate the Ostrich, hiding only the head and often leaving the whole body exposed. They were always careful, however, to keep the white underparts well concealed.

In two cases that were under careful observation for some time both parents performed the office of incubation in regular turn. The one that I judged to be the female brooded the eggs, tucking them carefully under her feathers, but the male merely stood above them, apparently shielding them from the burning sun, while the female went for a lunch and bath. The incoming bird uttered a peculiar rattling sound just before alighting some 20 feet from the nest, when the brooding bird got up and immediately flew away. The relief carelessly sauntered toward the nest, made believe picking up food when it reached the nest, then stood over it a moment before settling down, if the female. Neither bird remained on the nest over an hour, the male usually less than forty minutes, not waiting for the female to appear every time before leaving.

It was interesting to watch the old birds come in with a fish dangling from the beak. As it passed close along the beach each young bird in turn clamored for the morsel. When the old bird approached the place where its young had been last seen it skimmed above the stones, halting now and then before a particularly vociferous youngster, then either passed on or circled

back to look farther, finally either finding its own young or going to another place where another young had been left. I was eager to know how the old birds could recognize their own offspring among the multitude which looked exactly alike to me. It seemed incredible that they depended upon sight, or why should they almost actually touch the young each time before deciding the matter? I was forced to the conclusion that the sense of smell must play an important part in the final determination.

Later in the season young birds were seen following the old birds to where they fished, all the while loudly calling for food. I was prepared to see the morsel delivered while the birds were still flying, after the manner of the swallows, but it was never so done. The young, at least, must first rest upon the water or land, then the old usually settled for the moment of the delivery, the young bird first shaking his feathers well before rising and following. During the second week in August young birds were to be seen and heard about Great Harbor and Penzance, but none appeared to be fishing for themselves. Up to this time there appeared no evidence that either the old or young had begun to molt.

The terns appear to fish in companies, following schools of fishes of any species which may be suitable for food, size of the individual fish appearing to be the prime requisite. The fishes actually found in the stomachs or protruding from the mouths of the young birds, and some found on the islands accidentally dropped by the birds, or dropped near the young, are as follows: Sand Lance *(Ammodytes americanus)*, Cunner *(Tautoglabrus adspersus)*, Mullett *(Mugil curema)*, Pollock *(Pollachis virens)*, Flounder *(Pseudopleuronectes americanus)*, and young Herring (species not determined). Of all the food the Sand Lance comprised not less than 80 per cent.

It has been said that a tern never misses the fish which he dives for. I have seen many birds dive repeatedly without success. Most of the fish appeared to be grasped just a little in front of the middle, and were never struck with the closed bill, but grasped between the mandibles in every instance noticed. The fish are swallowed head first.

Many things in the life history of the terns need to be studied carefully before we can explain their true relationships with satisfaction.

KIRTLAND WARBLER *(Dendroica kirtlandi)* FOUND BREEDING.

Ohio ornithologists congratulate Michigan ornithologists upon their great good fortune in finding the nest, eggs and young of Kirtland Warbler in their own state. We shall await with keen anticipations the appearnce of the next Bulletin of the Michigan Ornithological Club, with its promised contributions on the life history of this little known warbler.

INFORMATION WANTED.

We desire to call attention again to the two lines of investigation and the call for help in completing the work. Mr. Alex. W. Blain, Jr., 131 Elmwood avenue, Detroit, Mich., desires information of any sort concerning the Great Blue Heron *(Ardea herodias)*. Lynds Jones, Oberlin, Ohio, desires information concerning the Mourning Dove *(Zenaidura macroura)*, and the loan of series of skins from all parts of the country, but particularly from the northwestern states and Canada.

ELECTION OF OFFICERS FOR 1904.

The attention of all members is called to the provision in our Constitution which calls for the nomination of persons for the offices of President, Secretary, Treasurer, and three members of an Executive Council. These nominations are to be made during the month of September, and should be sent to the President, Lynds Jones, Oberlin, O.; they will be counted if mailed on the last day of September. It is important that each Active member should make nominations. This matter will not take care of itself, but requires study at Woods Holl.

A CORRECTION.

In Bulletin 42, page 27, line 13, "Downey Woodpecker, 10," should read, "Downy Woodpecker, 1 female."

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Subscriptions may be sent to Lynds Jones, Oberlin, Ohio, or to Mr. Frank L. Burns, Berwyn, Penn., or to Mr. John W. Daniel, Jr., 3146 Q street, N.W., Washington, D. C.

EDITORIAL.

The editor spent July and the first half of August at that incomparable Marine Biological Laboratory, Woods Holl, Mass. While the islands of the region furnish perfect conditions for studying the breeding habits of three species of terns and one species of gull, the whole region is an exceptionally good one for the study of the summer habits of at least a dozen species of warblers, the Veery, and many other interesting birds, while on Martha's Vineyard the last of the Heath Hens may still be found. As a place for varied bird life it has few if any equals in our country. July and August are especially favorable months for bird study Woods Holl.

The July Auk contains the Twelfth Supplement to the A. O. U. Check-List. Twenty-three new species and subspecies are added, of which three are Otocoris and four Melospiza. It would be entirely possible to dispense with any more forms in these two already over crowded genera. The most marked feature of this revision is the raising to generic rank of 23 subgenera, by which several of our best friends assume a wholly unfamiliar name. But mere temporary inconvenience furnishes no argument against such radical change. We must feel some misgivings, however, when we reflect that in other departments of Zoology, speaking generally, there are often far greater differences between species than there

are between genera in Ornithology. One can hardly avoid the suspicion that Trinomialism is working this discrepancy. But we must also remember that intensive study, such as our chosen science is receiving, tends to discover differences where none were known to exist before, while it is also likely to magnify really slight differences. It is hard to draw the line. Former experiences prepared us for the usual reprinting of practically the whole Melospiza group. It is certainly a flexible genus or the contortions it is periodically called upon to go through would have disrupted it long ago. Forty proposed changes and additions were acted upon favorably, and nearly a hundred cases are deferred. We see no signs of the coming of stability in nomenclature, except the report of progress which this supplement may be considered to be.

PUBLICATIONS RECEIVED.

Birds in their Relation to Man. By Clarence M. Weed and Ned Dearborn. A Manual of Economic Ornithology for the United States and Canada. J. B. Lippincott Company, Philadelphia and London..

The timliness of this new volume will ensure for it a welcome among bird students everywhere. It is well illustrated in halftones and cuts with many new pictures of birds and insects. It is printed on good heavy paper in twelve-point type, and the typography is unusually good.

The subject matter may be divided into four parts, the first seven chapters being devoted to a general discussion of "Methods of Studying the Food of Birds," "Development of Economic Ornithology," the food and amount consumed, "Birds as Regulators of Outbreaks of Injurious Animals," of the different groups, in the reverse order of the A. O. U. classification; the Conservation, Prevention of Depredations and Encouragement of the Presence of Birds; and finally an appendix giving the A. O. U. Model Bird Law, the Lacey Bird Law, "Some Fundamental Principles of Bird Laws," "A Partial Bibliography of the Economic Relations of North American Birds," and Index.

Into this volume have been gathered the many scattering accounts of the food of birds, and some new information is given about the food of several species. It is not assumed that everything has been learned about the food of our birds, but it is hoped that the book will prove of some value to those who wish to learn what the economic status of the different birds is. It is a welcome addition to bird literature, and we have reason to thank the authors for their timely presentation of the book. L. J.

Bulletins I and II of the Philippine Museum. Bulletin I, on Birds from Luzon, Mindoro, Masbate, Ticao, Cuyo, Culion, Cagayan, Sulu, and Palawan. By Richard C. McGregor.

"This paper is the first of a proposed series of reports on collections made for the Philippine Museum, an institution established by and act of the Philippine Commission. It summarizes the more important results of: (1) Five weeks' collecting at Mariveles, Bataan Province, Luzon; (2) various two-day trips about Manilla; (3) three months in Ticao and Masbate; (4) a hurried visit to the Islands of Mindoro, Cuyo, Culion, Cagayan Sulu, and Palawan.

"But one of the species obtained appears to be new. The discovery, near Manila, of the males of Grant's two Luzon Orioles and the extension of the range of **Cinnyris whiteheadi** are most interesting."

"The work has been directed by Commissioner Dean C. Worcester, Secretary of the Interior, to whom the author is indebted for the use of books and assistance in many ways."

Six species new to the Philippines, one wholly new species, and the description of four hitherto unknown plumages, form the most interesting part of the paper to the general reader. New localities of upwards of 135 species are also given, indicating that a great amount of work is being done in that little known archipelago.

L. J.

Amateur Sportsman, Vol. XXIX, Nos. 2,3,4,5.
American Ornithology, Vol. III, Nos. 6, 7, 8, 9.
Atlantic Slope Naturalist, The, Vol. 1, No. 3.
Bird-Lore, Vol. V, Nos. 3, 4.
Condor, The, Vol. V, No. 2, 3, 4.
Fern Bulletin, The, Vol. XI, No. 3.
Journal of Applied Microscopy, Vol. VI, Nos. 5, 6
Maine Sportsman, The Vol. X, Nos. 118, 119, 120.
Naturaliste Canadien, Le, Vol. XXX, Nos. 7,8.
Plant World, The, Vol. VI, No. 6.

A BOB-WHITE COVEY.

From painting by Robert J. Sim.

THE

WILSON BULLETIN

No. 45.

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VOL. X. DECEMBER, 1903. No. 4.

A BOB-WHITE COVEY.

LYNDS JONES.

Reams of paper and pounds of ink have been consecrated to Bob-white, yet the manner in which the flock forms the bomb-shell "covey" has never been described, or if described the account has escaped my notice. Probably the fact that each flock of these birds passes the night in a compact ring, tails touching, heads pointed out, is as old as the discovery of these birds by the earliest settlers. Every "Quail" hunter has experienced the momentary terror occasioned by the bursting of this animal bomb at his feet, each bird apparently taking a separate direction, and yet the whole flock finally making off in the same general direction. He must also know that the birds do not always form this bomb whenever they see danger threaten, but when disturbed while they are feeding, they may either gather in a loose bunch, or run swiftly in a compact flock. They sometimes form this bomb even at midday, trusting to concealment for protection. The gathering of the flock again after being scattered is well known, but the form which the flock takes when all but the lost ones return does not seem to be known. It probably varies according to circumstances, since on one occasion I noted the formation of the bomb, but on others merely a compact flock without the bomb form.

Mr. Robert J. Sim, of Jefferson, Ohio, enjoyed the pres-

ence of a flock of Bob-whites during one entire winter, and succeeded in keeping them somewhat at ease by furnishing food twice a day. They even spent the night under an evergreen tree in the yard, but while they came regularly night and morning for the ration of grain, they spent the day foraging in the fields and woods in the vicinity. However, one particularly stormy day they came home shortly after dinner, apparently mistaking the partial twilight of the snowstorm for evening twilight. They skurried about in the driving snow and cutting wind for the scattered grain, then prepared for the night. The wind was sucking under their tree to such an extent that they found it no protection, so they selected a spot nearer the house, within plain view of the window, and proceeded to form their bomb. First one stepped around over the spot selected, then another joined him, the two standing pressed close together, forming the first arc of the circle. Another and another joined themselves to this nucleus, always with heads pointing out, tails touching, until the circle was complete. But two were left out! One stepped up to the group, made an opening, then crowded himself in, with much ruffling of feathers. One remained outside, with no room anywhere to get in. He, too, ran up to the circle of heads, then round and round, trying here and there in vain; it was a solid mass. Nothing daunted he nimbly jumped upon the line of backs pressed into a nearly smooth surface, felt here and there for a yielding spot, began wedging himself between two brothers, slipped lower and lower, and finally became one of the bristling heads. In this defensive body against frost and living enemy we may leave them.

A LIST OF BIRDS SEEN IN FRANCONIA, N. H., AND VICINITY DURING AUGUST AND SEPTEMBER, 1903.

BY HAROLD E. PORTER.

The species marked * are those not recorded by Messrs. Faxon and Allen during their stay in Franconia as recorded in the "Auk" for 1888.

These species were recorded in 75 regular hunts, of which two were for an entire day, and 23 were for a half-day. All the species recorded by one individual have been verified by at least one of the others, with the exception of *Regulus calendula*. The participants in this census were, in addition to myself, Messrs. C. H. Rogers, Edgar Tweedy, Bradford Torrey and Dr. C. A. Dewey.

Mr. Bradford Torrey has seen the Cape May Warbler in the immediate vicinity of Franconia, but the species is on neither list. Mrs. Annie Trumbull Slosson reports both Crossbills as very common later in the season, which seems strange, as they appeared on the Faxon list, which was made in June and August, and our list extended into September.

1. Great Blue Heron.—**Ardea herodias.** Only one individual recorded.*

2. American Woodcock.—**Philohela minor.** Seen twice; once while walking along the main road.*

3. Ruffed Grouse.—**Bonasa umbellus.** Twice recorded.

4. Marsh Hawk.—**Circus hudsonius.** Rather uncommon.

5. Sharp-shinned Hawk.—**Accipiter velox.** Rare at all times.*

6. Cooper Hawk.—**Accipiter cooperi.** Recorded five times; only once was a male seen.*

7. Red-tailed Hawk.—**Bueto borealis.** Seen only once.*

8. Bald Eagle.—**Haliætus leucocephalus.** One seen at Franconia; one at Northfield.*

9. American Osprey.—**Pandion haliaetus carolinensis.** Very rare.*

10. Belted Kingfisher.—**Ceryle alcyon.** Common on the larger streams.

11. Black-billed Cuckoo.—**Coccyzus erythrophthalmus.** Very rare. Seen on Gale river twice.

12. Hairy Woodpecker.—**Dryobates villosus.** Rather uncommon.

13. Downy Woodpecker.—**Dryobates pubescens medianus.** Rare; one male was seen in the same place on several days.

14. Yellow-bellied Sapsucker.—**Sphyrapicus varius.** Rather common near houses.

15. Northern Pileated Woodpecker.—**Ceophlœus pileatus abieticola.** Began to arrive about September 10.*

16. Northern Flicker.—**Colaptes auratus luteus.** Very common; usually seen in large flocks.

17. Nighthawk.—**Chordeiles virginianus.** Rather common in the village.

18. Chimney Swift.—**Chætura pelagica.** Uncommon until September 1; after that very rare.

19. Ruby-throated Hummingbird.—**Trochilus colubris.** But few seen.

20. Kingbird.—**Tyrannus tyrannus.** Common until August 20; after that exceedingly rare.

21. Phœbe.—**Sayornis phœbe.** Fairly common; commonest of the flycatchers.

22. Olive-sided Flycatcher.—**Nuttalornis borealis.** Seen but once.

23. Wood Pewee.—**Contopus virens.** Rare.

24. Least Flycatcher.—**Empidonax minimus.** Also seen but once.

25. Blue Jay.—**Cyanocitta cristata.** Common.

26. Canada Jay.—**Perisoreus canadensis.** Seen once.

27. American Crow.—**Corvus americanus.** Abundant at all times and places.

28. Bobolink.—**Dolichonyx oryzivorus.** One female seen.

29. Baltimore Oriole.—**Icterus galbula.** Seen twice; and heard singing as late as September 20.

30. Rusty Blackbird.—**Scolecophagus carolinus.** One seen and one heard.

31. Bronzed Grackle.—**Quiscalus quiscula æneus.** A small flock seen early in August.*

32. Purple Finch.—**Carpodacus purpureus.** Rather common; especially in the latter part of August.

33. American Goldfinch.—**Astragalinus tristis.** Very common; several nests found.

34. Pine Siskin.—**Spinus pinus.** Rather common in the most populous districts.

35. Vesper Sparrow.—**Pocecetes gramineus.** Very common; but few singing.

36. White-crowned Sparrow.—**Zonotrichia leucophrys.** Seen once.

37. White-throated Sparrow.—**Zonotrichia albicollis.** Rather common along the roads.

38. Chipping Sparrow.—**Spizella socialis.** Very abundant.

39. Field Sparrow.—**Spizella pusilla.** Common.

40. Slate-colored Junco.—**Junco hyemalis.** Rather common, especially on the hills, and Mt. Lafayette.

41. Song Sparrow.—**Melospiza cinerea melodia.** Very abundant.

42. Lincoln Sparrow.—**Melospiza lincolni.** Seen once.

43. Rose-breasted Grossbeak.—**Zamelodia ludoviciana.** Uncommon.

44. Scarlet Tanager.—**Piranga erythromelas.** Rather rare; all seen were in the green plumage.

45. Cliff Swallow.—**Chelidon erythrogaster.** Abundant to September 15.

46. Barn Swallow.—**Petrochelidon lunifrons.** Abundant up to September 1.

47. Bank Swallow.—**Riparia riparia.** Rare; seen at Streeter's Pond occasionally.

48. Cedar Waxwing.—**Ampelis cedrorum.** Abundant to September 15.

49. Red-eyed Vireo.—**Vireo olivaceus.** Rather uncommon.

50. Warbling Vireo.—**Vireo gilvus.** Only one seen.

51. Blue-headed Vireo.—**Vireo solitarius.** Seen first on September 19; after that fairly common.

52. White-eyed Vireo.—**Vireo noveboracensis.** Rather rare.*

53. Black and white Warbler.—**Mniotilta varia.** Rather uncommon.

54. Nashville Warbler.—**Helminthophila rubricapilla.** Rare.

55. Northern Parula Warbler.—**Compsothlypis americana usneæ** Rather rare.

56. Yellow Warbler.—**Dendroica æstiva.** Only one seen.

57. Black-throated Blue Warbler.—**Dendroica cærulescens.** Rather uncommon.

58. Myrtle Warbler.—**Dendroica coronata.** Very common; commonest of the warblers.

59. Magnolia Warbler.—**Dendroica maculosa.** Rather uncommon.

60. Bay-breasted Warbler.—**Dendroica castanea.** Only one seen.

61. Black-poll Warbler.—**Dendroica striata.** Seen but few times; always in large flocks.

62. Blackburnian Warbler.—**Dendroica blackburniæ.** Rather rare up to August 30; after that exceedingly rare.

63. Black-throated Green Warbler.—**Dendroica virens.** Rather rare to September 10, after that rather common.

64. Oven-bird.—**Seirus aurocapillus.** One seen walking in gutter.

65. Northern Yellow-throat.—**Geothlypis trichas brachydactyla.** Rather common, but only one male seen during the entire two months.

66. Canadian Warbler.—**Wilsonia canadensis.** Very rare.

67. American Redstart.—**Setophaga ruticilla.** Uncommon.

68. American Pipit.—**Anthus pensilvanicus.** Seen several times on lawns.*

69. Catbird.—**Galeoscoptes carolinensis.** Rather common near the larger streams.

70. Winter Wren.—**Olbiorchilus hiemalis.** Rather rare,

71. House Wren.—**Trogoldytes aëdon.** Somewhat more common.

72. Brown Creeper.—**Certhia familiaris americana.** Uncommon.

73. White-breasted Nuthatch.—**Sitta carolinensis.** Rare.

74. Red-breasted Nuthatch.—**Sitta canadensis.** Seen but few times.

75. Chickadee.—**Parus atricapillus.** Very common, at times abundant.

76. Hudsonian Chickadee.—**Parus hudsonius.** Seen once.

77. Golden-crowned Kinglet.—**Regulus satrapa.** Common in the pine woods.

78. Ruby-crowned Kinglet.—**Regulus calendula.** Heard several times, seen only by Mr. Tweedy.

79. Wood Thrush.—**Hylocichla fuscescens.** Rather rare.

80. Olive-backed Thrush.—**Hylocichla swainsonii.** Exceedingly rare.

81. Hermit Thrush.—**Hylocichla guttata pallasii.** Rather rare, especially early in August.

82. Robin.—**Merula migratoria.** Abundant.

83. Bluebird.—**Sialia sialis.** Very abundant.

84. English Sparrow.—**Passer domesticus.** Rare in Franconia at all times, and rather uncommon even in the larger towns.

SPECIES IN THE FAXON-ALLEN LISTS FOR 1888 NOT SEEN IN THE LATE SUMMER OF 1903.

Spotted Sandpiper.—**Actitis macularia.** Reported common along streams.

Arctic Three-toed Woodpecker.—**Picoides arcticus.** One instance reported.

Crested Flycatcher.—**Myiarchus crinitus.** Reported as rare.

Traill Flycatcher.—**Empidonax trailii.** Reported as common.

Cowbird.—**Molothrus ater.** One instance reported.

American Crossbill.—**Loxia curvirostra minor.** Reported common.

White-winged Crossbill.—**Loxia leucoptera.** A few instances recorded.

Indigo Bunting.—**Passerina cyanea.** Reported abundant.

Purple Martin.—**Progne subis.** .One flock reported.

Tree Swallow.—**Iridoprocne bicolor.** Reported common.

Tennessee Warbler.—**Helminthophila peregrina.** Reported as rare, two seen.

Mourning Warbler.—**Geothlypis philadelphia.** Reported as seen twice, although some distance from Franconia.

Bicknell Thrush.—**Hylocichla aliciæ bicknelli.** Reported as seen on Mt. Lafayette.

BACHMAN SPARROW.—*Peucæa æstivalis bachmanii.*

(Selected from Dawson's "Birds of Ohio.")

It is very gratifying to be able to report the recent invasion of the state by this delightful vocalist from the south. To Rev. W. F. Henninger, then of Scioto county, belongs the honor of first discovery. A specimen was secured by him near South Webster, April 23, 1897, but it was, unfortunately, not preserved. On April 23, 1903, the author in company with Miss Laura Gano and a party of scientists, took a singing male on Rose Hill, Cincinnati, and the specimen is preserved in the Cincinnati Museum of Natural History. On the following day three others in full song were found upon another of those beautiful wooded hills for which the Queen City is justly famous. These last, I rejoice to say, were not sacrificed even in the name of science. Miss Gano first noted the species at Cincinnati, April 25, 1901, and had seen it on at least two occasions since.

Later in the same season, June 10 and 11, I came upon the Bachman Sparrow upon one of the hills near Sugar Grove, in Fairfield county. A nest was found in a clover field, which, although deserted at the time, belonged upon the strongest presumptive evidence to this bird. One of the young birds was easily caught and its picture taken both in the hand and in the nest, as shown in the accompanying illustrations. A few days later Ralph and Will Bumgardner took a set of four eggs from the ground in the same meadow. The eggs were pure white and could hardly have belonged to any other than this species.

The song of the Bachman Sparrow is a thing of surprising beauty. In delivering it the bird chooses a prominent station at the top of weed-stalk, fence-post, or sapling, or stands well out on a bare limb of a tree. Here he throws his head back and draws, as it appears, a full breath in a note of ravishing swetness; then sends it forth again in a tinkling trill of uniform or varied notes. Nothing can excel the fine poetic rapture of the inspirated note. It sets the veins a-tingle and makes one wish to put his shoes from off his feet. The characteristic opening note is given with constantly varying

pitch and intensity. Sometimes it sounds like a dream voice floating gently from the summer land of youth, and again it vibrates with startling distinctness like a present call to duty. Occasionally a dainty trill is substituted for this inspired and inspiring opening, while the remainder of the song may consist of a half-dozen notes precisely alike, or of a succession of groups three or four in number. There is a soulful quality, an ethereal purity, and a caressing sweetness about the whole performance which makes one sure the door is opened into the third heaven of bird music.

Once as I sat entranced before this new-found Orpheus a Lark Sparrow broke into song at half the distance. In pained astonishment and wrath I turned upon him—him even! "Oh, please not now! Mon enfant! Please not now!"

A DECEMBER HERMIT THRUSH.

LYNDS JONES.

Readers of the Bulletin will be familiar with the sandstone knob features of the northwestern parts of Lorain county, Ohio, from previous descriptions of mine. One of these knobs lies a half mile south of Brownhelm Station on the L. S. &. M. S. R. R.. It marks the site of former extensive operations and activities in the industry of sandstone quarrying, but the place has since been abandoned for more profitable and extensive fields to the east and south, leaving the sheer, smooth rock walls where the drill last left its mark, heaps of stone rubbish on the other side of the excavated area, just beyond the deep pool which never freezes, and hard by the old stone buildings now used for barns. On December 4, in company with three other bird lovers, I tramped the twenty-one miles to Lake Erie, with this abandoned quarry as one of the objective points in the line of march. In the tangle on the east side of this old quarry, with barn refuse within easy reach, we found a solitary Hermit Thrush *(Hylocichla guttata pallasii)*. I

have always contended that these tangles would prove retreats for birds not found regularly so far north in winter, and here is corroboration. The weather had been unusually mild, without snow to speak of, up to Thanksgiving day, but on that day about two inches of snow fell, with a cold wave, and ever since the ground has been covered with from two to four inches of snow. On several nights the temperature fell below 10°, but the thrush seemed to be as robust and contented as could well be. Robins were also seen during the day, and one flock of Pine Grosbeaks. The occurrence of southern species wintering with northern species seems remarkable. The study of the winter birds, during this winter, promises to be worthy of unusual interest.

BLACK SKIMMER AT WOODS HOLE, MASS.

LYNDS JONES.

The rarity of the Black Skimmer anywhere along the Massachusetts coast makes any occurrence worthy of note. Messrs. Howe and Allen, in their "Birds of Massachusetts" give the only Woods Hole record as follows: (page 28) "Falmouth, Woods Holl, a young bird taken August 19, 1879, by John F. Carlton, and now in the collection of the Boston Society of Natural History." I have a record of a bird in full plumage, July 16, 1903, for the Woepecket Islands. The bird appeared soon after my arrival at 8:30 A. M., and remained near the islands, circling around them several times, and approaching me within a few yards twice. It was so pestered by the terns that it finally flew down Buzzards Bay and disappeared oceanward.

A NEW YEAR HORIZON.

The editor again calls for New Year Horizons from all localities. We made a good beginning last year, but let us do far better this time. The offer to send free of cost a year's

subscription to the person or persons who secure a larger bona fide list of birds than the editor, on that day, will be renewed, and in addition to this offer we will present free of cost a copy of the 82 page Monograph of the Flicker to all who secure a list of fifteen or more species. Work over your locality as much as possible between now and the first of January to find the places where the birds are most likely to be found. You will find it worth while in itself and of use when the test day comes. Send the lists to the editor as soon as possible after the first day of January, with whatever comments you may wish to make, whether for publication or not, writing on but one side of the sheet. Note the number of individuals seen, if possible, and give the temperature, direction of wind and condition of sky, and approximately the amount of ground covered. Acknowledgement of all lists numbering more species than the editor's list will be promptly made, and the promised Monograph of the Flicker will be promptly forwarded to all who record fifteen or more species.

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Official Organ of the Wilson Ornithological Club.

Edited by LYNDS JONES.

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EDITORIAL.

We come to the close of another year, the fifteenth since our organization, the first since our reorganization as The Wilson Ornithological Club, with a largely increased membership, with a firmer grasp upon the future, and with greater confidence in the value of field work such as we seek to do. We look out upon a twelvemonth of larger attainment than any past, with the expectation of helping many into a better knowledge and a keener appreciation of the birds about them—into a life fuller of the joy of living. We believe that it is worth anybody's while to study birds intensively while they are living and striving; to get among them at considerable inconvenience and expense, if necessary, in order to imbibe something of their contentment and happiness. It is worth while to watch every bird keenly, especially the winter birds. Let no opportunity pass to learn what they are doing and how they do it. It is better to regard them as birds, not trying to see in them human characteristics and motives. Let them be birds. It is only after the accumulation of a great mass of facts that we may hope to know why they act as they do, if we are ever to know that exactly. Formulate no theory, for if you do it is pretty certain that your facts will bend to the theory. It is only the fully open-minded who really advance knowledge.

Again we make the earnest plea not to let your bird studies lapse with the appearance of cold weather, but rather increase your activities. Make a determined effort to bring some bird to your lunch counter this winter, and give him some of your time while he is profiting by your bounty. If possible keep a record of the species which visit the lunch counter. It may be possible for you to determine the amount of food eaten by one bird in a day. That is an important point. Note how the different species act toward each other, as well as the individuals of a species. Does the law of might govern them? Remember that winter is the best time in which to make an enumeration of the birds of your region. At least it is possible to keep a record of the number of individuals of each species recorded. You will be surprised at the number of species which may be found during the winter months in almost any locality. The writer recorded no less than 40 species between the first day of January, 1903, and the twenty-sixth day of February, and that is not unusual. Winter field study pays in results, and pays in health.

The output of state and local catalogues and lists of birds for 1903 has seldom, if ever, been equalled, omitting mention of the lists of birds in foreign countries and the islands of the sea. It is especially gratifying that so many of the states of the union are becoming supplied with catalogues of the birds which have been found within their borders. These catalogues furnish a basis for work for those who are beginning the study of birds, and they also furnish an excellent basis for future comparisons of bird life when advancing civilization, with its inevitable changes, has wrought revolutions in the habits of very many species. The study of the adaptations of the birds to these changed conditions will be fascinating in the extreme. During the year Wisconsin has been added to the list of states which have catalogued their birds, by the appearance of Kumlien's and Hollister's Catalogue, and Kansas and Ohio have been brought down to date ornithologically by the appearance of Snow's Revised Catalogue of the Birds of Kansas, and the writer's Revised Catalogue of the Birds of Ohio. We understand that Mr. H. C. Oberholser is preparing a catalogue of the birds of Texas. Local lists of birds, county and regional lists, have been numerous, both as separate papers and articles in the magazines. The appearance of Dawson's Birds of Ohio adds a stimulus to the popular side of bird study. It is the most notable book of its kind for the year, if not for several years. The interest which it has already aroused in those who have seen advance copies presages a heavy sale within and without the state. Outside of the United States, but still within our avi fauna, Part II of Macoun's Catalogue of Canadian Birds is a notable contribution to ornithology. We believe thoroughly in

these more or less local lists, because it is by these that we shall ultimately come to be certain of the true range of our birds. It is usually true, also, that these catalogues contain something of value relating to the life history of at least some of the birds enumerated. Complete life histories of any of our birds have yet to be written. The nearest approach to a complete life history of any bird is Mr. Frank L. Burns on the Flicker, published as Bulletin No. 31, of the Wilson Bulletin series.

While we are in entire sympathy with the efforts put forth to protect our native birds, and rejoice to note the effective ways adopted to bring about better protection, we have also shared the feeling that there was too little respect of persons in the effort of protecting the birds. We feel that too heavy restrictions have been laid upon those who find it necessary to do strictly scientific collecting for legitimate purposes. We still believe that some restriction should be placed upon even the scientific collector, but the "Model Law" should not be made practically prohibitive. It is a pleasure, therefore, to state that at the last meeting of the American Ornithologists' Union the bonding clause of the "Model Law" was so modified that strictly scientific collecting will no longer be so greatly hampered. It behooves those who are benefited by this needed change not to abuse the privilege.

ELECTION OF OFFICERS FOR 1904.

The following persons have been elected to fill the offices of the Club for 1904:

President—Lynds Jones, Oberlin, Ohio.
Vive President—W. L. Dawson, Columbus, Ohio.
Secretary—John W. Daniel, Jr., 3146 Q St., Washington, D. C.
Treasurer—Frank Burns, Berwyn, Pa.
Executive Council—H. C. Oberholser, Washington, D. C.
John H. Sage, Portland, Conn.
Benj. T. Gault, Glen Ellyn, Ill.

ELECTION OF NEW MEMBERS.

For Active membership, O. H. Pease, Hope, Kansas.
H. H. Skinner, Oberlin, Ohio.
For Associate membership, N. C. Gilbert, 615 Lake street, Madison, Wis.

GENERAL NOTES.

A Day with the Birds.—Hillsboro, Ohio, August 17, 1903.—Weather, forenoon, clear with a light breeze from the east; afternoon, clear with a brisk breeze from the north. Start, 7:45 a. m. Temperature 70°. Return 12 m. Temperature 85°. Start in afternoon at 1:45. Temperature 85°. Return 6:00 p. m. Temperature 82°. The excursion was along and near Rocky Fork Creek,within a radius of two miles south of Hillsboro. Distance traveled during observation, seven miles. Saw the first twenty birds in the forenoon. The birds are given in the order in which they were seen. Nearly every species was seen a number of times. Crow, Wood Pewee, Wood Thrush, Turkey Vulture, American Goldfinch, Vesper Sparrow, Grasshopper Sparrow, Green Heron, Belted Kingfisher, Phœbe, Towhee, Blue-gray Gnatcatcher, Catbird, Oven-bird (uncertain), Least Flycatcher, Flicker, Mourning Dove, Brown Thrasher, Barn Swallow, Baltimore Oriole, Meadowlark, Killdeer, Rusty Blackbird, Summer Tanager, Yellow-billed Cuckoo, Screech Owl, Indigo Bunting, Cardinal, Swamp Sparrow, Ruby-throated Hummingbird, Red-headed Woodpecker, Chimney Swift, Whippoorwill, Blue Jay, Kingbird, Robin, Hairy Woodpecker, Bluebird, House Wren, Song Sparrow, Purple Martin. Species 41.

Verified by a friend.

ARTHUR EDGINGTON.
CLARENCE A. MORROW.

Some unusual Oberlin records. Canadian Pine Grosbeak (Pinicola enucleator leucura). On November 20 a flock of a dozen of these rare birds made their appearance at Oberlin. The following morning one was found feeding on the ground in a field where weeds had sprung up among the wheat stubble. While the bird was watched at a range of less than ten feet, it ate nothing but Stick-tights (Bidens frondosa). It was no more timid than a common chicken. This is the second record for Lorain county. This flock is another indication of a considerable southward flight of these rare northern birds. Everybody should be on the lookout for these birds and the Crossbills this winter. Their unwariness makes of them real friends in feathers. As specimens they should not be considered a success except by the favored few.

American Crossbill, (Loxia curvirostra minor). After an absence of nearly eighteen months this Crossbill has again made its appearance among us. It is not yet found in any considerable numbers, but it is present and seen nearly every day. Reports from various places indicate that this species promises to be more than unusually numerous the coming winter.

Hooded Merganser (Lophodytes cucullatus). With the first sug-

gestion of winter the ducks began to drop into the Oberlin waterworks reservoir. For the first time in the history of the reservoir Hooded Merganser has stopped in the southward migration. On November 19, a flock of four males and three females arrived about the middle of the forenoon and were gone shortly after dinner. Two females came and remained all day on the 21st. The males were in full dress. They seemed to be feeding upon the vegetation at the water's edge, and were not seen to catch any of the very numerous fish.

American Golden-eye (Clangula clangula americana). One in immature plumage appeared on November 19, and remained for several days, feeding upon the Cara at the edges of the reservoir. It has never before been seen during the fall.

Earlier in the season **Pied-billed Grebes** and **Coots** were unusually numerous at the reservoir for two or three weeks. A dozen grebes on the reservoir at one time was not unusual. One Coot, scarcely larger than a grebe, fed constantly at the edge of the water, with no apparent fear of persons standing within a few feet of him, watching him dive down to the bed of Cara, bring up a large mouth-full, and proceed to swallow as much as he could before it sank out of reach. The clear water permitted a perfect study of his motions while under water. LYNDS JONES.

PUBLICATIONS RECEIVED.

The Birds of Ohio. By Rev. W. Leon Dawson, A.M. Published by the Wheaton Publishing Company, 1216 The Hayden, Columbus, Ohio. Sold only by subscription.

This is the most notable book upon popular scientific ornithology which has appeared since Nehrling's "Our Native Birds of Song and Beauty." While it treats only the 320 odd birds which have been found in Ohio, its treatment of these species is so thorough that little remains to be said about them. The species are among the most common which will be found in any locality east of the Great Plains, and the book will therefore find a ready sale outside the state where it will prove as useful as within the state. The book is an imperial quarto of about 720 pages exclusive of 80 colored plates, printed on fine paper, and with some 200 cuts of birds and nests in the text. These cuts are almost wholly from photographs from nature, and are therefore new—made expressly for this book. The author has combined accuracy of statement with good literary style, making facts interesting to the casual reader. The brief, but accurate descriptions of the birds have been taken directly from Ohio specimens of each species, and are therefore not rehashes of other descriptions. A brief statement of the range of the species at large is followed by its range in Ohio. A concise description of the nest and eggs is also given for such species

as breed in Ohio. Then follows, at greater or less length, a general account of the habits of the species for the popular reader. We bespeak for this book a wide field of usefulness.

The Zoological Quarterly Bulletin, Pennsylvania Department of Agriculture, Division of Zoology. Vol. 1, No. 1, Birds Around the Farm; No. 2, The Economic Value of Our Native Birds. Edited by H. A. Surface, M.S., Economic Zoologist.

In the first number of this new quarterly, Professor Surface gives descriptions and cuts of bird houses which may be erected for the accommodation of various species of birds, points out their economic value, notes their decrease and makes a plea for their preservation, and discusses the value of bird study, giving methods. In the second number an analytical key to the orders and families of North American birds is given, followed by a discussion (to be continued) of the larger groups. We understand that this Quarterly contemplates covering the whole field of Zoology ultimately, but will probably confine itself to birds for the present. We bespeak for it a useful mission in the field of popular education.

Osteology of the Limicolæ. By Dr. R. W. Shufeldt. Reprint from the American Naturalist, Vol. 37, No. 442, pages 697-725.

Osteology and Systematic Position of the Kingfishers (Halcyones). By Dr. R. W. Shufeldt. Reprint from Annals of the Carnegie Musem, Vol. 2, pp. 15-70, 1903.

In these two papers Dr. Shufeldt gives us the results of a great amount of painstaking study and comparison of skeletons, with the object of more definitely showing the relationships of these two groups of birds. They have never been quite satisfactorily disposed of, different authors differing in their opinions as to their proper position in the scheme of classification. In a tentative scheme of classification Dr. Shufeldt places "the Charadriiformes between the Lariformes and the group containing all the ralline forms." The Dr. regards the present knowledge of the structure of the kingfishers and their affines as too meager for even a tentative classification. We trust that this comparative study of osteology may go on until that phase of systematic work has been completed, enabling us to use the skeletal features intelligently.

L. J.

Birds of a Maryland Farm. A Local Study of Economic Ornithology. By Sylvester D. Judd, Ph.D. U. S. Department of Agriculture, Division of Biological Survey. Bulletin No. 17.

In this extensive study of the 230 acre Bryan Farm, opposite Mount Vernon, on the Potomac river, Dr. Judd brings home to us the real value of local study of the birds. Any bird student who

mourns his lack of opportunity to get away where there are birds should read and study this admirable account of field work.

The period of study upon which this paper is based began July 30, 1895, and closed July 24, 1902, during which time "visits were made at frequent intervals and including every month in the year except January." As a basis for determining the food of the birds, the available food supply was carefully studied. Observations upon the food habits were supplemented by the examination of 698 stomachs. The conclusions drawn prove that the English Sparrow, Cooper and Sharp-shinned Hawks and Great Horned Owl are always injurious, the Crow usually so, and the Purple Grackle frequently. The other species are mainly beneficial.

The numerous illustrations are both valuable and instructive. A map of Bryan Farm, and photographs of localities and special conditions of vegetation and crops convey concrete ideas of the conditions of study. Figures illustrating the percentages of different kinds of food eaten during the stages of growth of the young are a valuable contribution to the life history of the several species so treated.

Dr. Judd is to be congratulated upon this valuable work, which opens the way for similar studies everywhere. L. J.

Birds of Fergus County, Montana. By P. M. Silloway, Principal Fergus County High School. Issued by the authority and direction of the Board of Trustees, Fergus County Free High School. Lewiston, Mont., 1903.

This pamphlet of 77 pages "is intended primarily to aid any worker in this branch of natural history, and to extend the knowledge of the common birds of this region. It is further hoped that it will be a help to any person who may be interested in forming the acquaintance of some of the birls which escape common observation. While possibly not free from errors, the list is believed to be as complete as present information can make it, and hence will serve as a basis for more detailed and extensive investigation."

"In order to make the list usable to general observers, brief descriptions have been included, given in such terms as the ordinary reader may understand."

The frontispiece of an American Magpie is one of the seventeen illustrations of birds or nests and eggs taken from life, the character of which is good throughout. The pictures were taken by Mr. E. R. Warren and Prof. M. J. Elrod, and speak well for the skill and ability of these men.

A small map of Fergus county is followed by a brief account of the topography, giving the reader a good idea of the varied character of the county with its 6762 square miles—a small state in itself. A partial bibliography of Montana birds proves that while

it is generally considered to be a wild and little visited region, it has not been neglected ornithologically.

The annotations treat of the mode of occurrence, region, migration, and distinguishing features of each of the species enumerated. The annotations are well chosen, and add not a little to our knowledge of the life history of the birds in that region. The paper closes with a "Review," listing each of the resident 30, summer resident 101, migrant 31, winter resident 13, and other species 4, showing a total of 179 species which have been found in the county.

The Birds of Wisconsin. By L. Kumlien and N. Hollister. Bulletin of the Wisconsin Natural History Society, Vol. 3, Nos. 1, 2, and 3. January, April, July, 1903.

The delay in the appearance of this catalogue of birds was occasioned by the death of the senior author just before the completion of the manuscript, and later, by the absence of Mr. Hollister in Alaska on business for the national Biological Survey. It is a paper of 147 pages which makes no pretensions to being more than an annoted catalogue of the birds of Wisconsin. Nor have the authors claimed for it more than a conservative list of the birds of their state. It contains no "light" records which have not been relegated to the Hypothetical List, where they belong. This safe conservativeness has reduced the number of species from 365 to 357, and thereby made their reputation for accuracy. The feeling of security which this list gives the one who wishes to know for a certainty what birds have been found in Wisconsin is cause for congratulation. Few of the annotations are concerned with more than records, but there are occasional glimpses of life histories. The note in regard to the finding of a hybrid Helminthophila pinus+H. rubricapilla adds another to the list of hybrids which H. pinus seems capable of forming. It is to be regretted that it was not possible to await the appearance of the young to determine the form assumed by those hybrids in embryo.

Eight full page half-tones from photographs by F. E. Burrows from life add interest to the paper. We cannot but regret deeply the untimely death of Mr. Kumlien, while we congratulate Mr. Hollister upon the completion of the work under such trying circumstances.

Amateur Sportsman, Vol. XXIX, No. 6, Vol. XXX, No. 1.
American Ornithology, Vol. III, Nos. 10, 11, 12.
Bird-Lore, Vol. V, Nos. 5, 6.
Condor, The, Vol. Nos. 5, 6.
Fern Bulletin, The Vol. VI, Nos. 7, 8.
Journal of Applied Microscopy, Vol. VI, Nos. 7, 8.
Maine Sportsman, The, Vol. XI, Nos. 122, 123, 124.
Naturaliste Canadien, Le, Vol. XXX, Nos. 9, 10.
Plant World, The, Vol. VI, Nos. 7, 8, 9.

IMPORTANT NOTICE.

The editor wishes to revise the mailing list for the new year, and calls the attention of every member and subscriber, and all exchanges to the address upon the wrapper of this copy. If it is the correct address nothing need be done, but if it is in any way faulty, kindly correct it by postal to the editor at once. Any changes of address during the year should be promptly reported.

ERRATA.

(Some distressing errors appeared in the last number of the Bulletin, due to lack of time to submit the proof to the authors of the articles, and to hasty proof reading. Hereafter all articles submitted for publication will be submitted to the authors for revision, hence copy should reach the editor at least three weeks in advance of its publication.—Ed.)

Page 77, line 1, for 1902 read 1901.
Page 77, line 7, for story read stay.
Page 77, line 7, for 1900 read 1899 and for 1902 read 1900.
Page 78, line 12, for fleeting read flowing.
Page 78, line 29, for Abeis read Abies.
Page 78, line 29, for Lsuga read Tsuga.
Page 78, line 30, for Beluta papriferna, read Betula papyrifera, and for Beluta luten read Betula lutea.
Page 78, line 31, for babatun read barbatum.
Page 78, line 35, for B. M. B. read Bot. and Bird.
Page 79, line 10, for Alleghenian read Alleghanian.
Page 79, line 30, for exclusive read exclusively.
Page 79, line 41, for atricpillius read atricapillus.
Page 80, line 9, for underhill read Underhill.
Page 81, lines 17 and 20, for Howell's read Harlow's.
Page 81, line 35, for Coturniculus read Passerculus.
Page 81, line 39, for Inn read Iron.
Page 82, line 10, for fasciata read melodia.
Page 82, line 16, for Indiga read Indigo.
Page 82, line 23, for Clivicola read Riparia.
Page 83, line 15, for shrubbery read shrubby.
Page 83, line 33, for Howell's read Harlow's.
Page 83, line 41, for abundant read abandoned.
Page 84, line 2, for Lorry read Torrey.
Page 84, line 12, for underhill read Underhill.
Page 85, line 23, for underhill read Underhill.
Page 85, line 31, for bald read bold.
Page 85, line 36, for when read wheu.
Page 85, line 40, for wee chi chi wee read weé chi chi weé.
Page 85, line 43, for On read Or.
Page 86, line 19, for Smuggles read Smugglers'.
Page 86, line 29, for Lorrey read Torrey.
Page 86, line 31, for cavern read cairn.
Page 86, line 32, for the Underhill read Underhill.
Page 92, line 20, for Certhia familiaris fusca read Certhia familiaris americana.
Page 101, line 6, for appearuce read appearance.

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